

AMERICAN ARTISAN and MAY 20, 1922 Hardware Record

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When You Replace the Rusted Out Gutters

BE SURE the new gutters and leaders are galvanized "ARMCO"
Ingot Iron—the rust-resisting iron.

Your customer pays a little more for it, but it will give him many additional years of service. If you divide the cost of ordinary gutters by the number of years they last, you will find that they are more costly than "ARMCO" Ingot Iron used for this purpose.

WRITE FOR BOOKLET "WHY STEEL AND IRON RUST"
AND NAME OF DISTRIBUTOR IN YOUR TERRITORY



The American Rolling Mill Co.
MIDDLETOWN, OHIO



RUST, the arch destroyer



of Leaders and Gutters
Cannot Attack those on
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Leaders and Gutters "made from Horse Head Zinc" eliminate maintenance and replacement costs. They require no artificial protection and last a lifetime.

These 10 preferential features are embodied in roofing equipment made from Horse Head Zinc.

1. It cannot rust.
2. Lasts indefinitely.
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9. Least expensive of all durable equipment.
10. Assures economy of roof upkeep.

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160 Front Street

(Established 1848)

New York City

Manufacturers of

Zinc Oxide, Albalith, Slab Zinc, Spiegeleisen, Zinc Dust, Rolled Zinc, Sulphuric Acid Salt Cake, Zinc Chloride, C. P. Metallic Zinc, Zinc Sulphate, Mossy Zinc, Feathered Zinc

CHICAGO: Mineral Point Zinc Company, 1111 Marquette Building
PITTSBURGH: The New Jersey Zinc Co. (of Pa.), 1439 Oliver Building
CLEVELAND: The New Jersey Zinc Sales Co., 1138 Guardian Building



The World's Standard for Zinc Products

Founded 1880 by Daniel Stern

Thoroughly Covers
the Hardware, Stove,
Sheet Metal, and
Warm Air Heating and
Ventilating Interests

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CHICAGO, MAY 20, 1922.

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HOW OFTEN DO YOU TURN YOUR STOCK?

Commenting on the results obtained from a recent investigation, the Harvard School of Business finds that in the stores which reported a net profit in 1920, the turn-over was 2.1 times, while in the stores which reported a loss, the average turn-over was 1.8 times, so that there is only a very small difference between the two classes.

What does this mean?

Simply this, that a little more speeding up of the creative selling effort—a little more attention paid to the stock keeping records—a little more care in buying—will change an unsuccessful hardware store into a profitable enterprise.

Take the second item first: More care in keeping stock and records of same.

That is really the fundamental condition, for unless you know how much you have in stock of a certain line, and how frequently that stock will turn, how can you buy intelligently, and unless your purchases are based upon the knowledge of your needs, you are bound to lose out.

So stock records should be kept scrupulously correct—the amounts, quantities, dates of delivery of all purchases being entered.

The quantities sold should then be deducted, so that when the traveling salesman is calling there will be something definite on which to base the size of the order and the date of delivery.

By this method errors of judgment are avoided. In fact, guesswork ceases to be as important a factor in buying, so far as quan-

ties are concerned, as it may have been in the past.

Orders will not be placed for a gross when records show that by the time the salesman calls again only two dozen will be sold.

And this holds good even if there is an extra discount of five per cent on the gross order.

When it comes to this point, it is that extra discount for quantity which often plays havoc with the rich profit.

For example—a certain article may cost \$6.00 a dozen and retail at 75 cents each, records showing that 20 dozen are sold in a year.

Purchasing this article in two-dozen lots means an investment of \$12.00, and in the course of six months, ten dozen are disposed of with a total gross profit for six months, in cash, of \$30.00, on investment of \$12.00. If an order is placed for one gross, because of an extra discount of five per cent, the sales being the same—10 dozen in six months—there will be a gross profit of \$30.00 plus \$3.60, or \$33.60, but part of this gross profit is represented in the two dozen unsold articles, so that the cash drawer or bank book is short just \$18.00 minus 60 cents, or \$17.40, and the original investment is \$72.00 less five per cent, or \$68.40.

It is easy to see in this case where the extra five per cent quantity discount is a very expensive proposition.

With the foregoing facts and principles in mind, the dealer can work out a satisfactory and profitable method of turnover.

Prosperity does not come by chance. It is the result of knowledge applied to business.

Random Notes and Sketches.

By Sidney Arnold

THE changing order of things is well exemplified in this clipping which I received from John H. Hussie, Omaha, Nebraska, secretary Western Warm Air Furnace and Supply Association:

A certain actor, noted for his numerous trips to the altar, was approached by a friend on Broadway just after he had announced his intention of annexing Wife No. 7.

"Well, old scout," said the friend. "I hear you're going to get married again."

"Yes," replied the actor somewhat cheerlessly. "But the good old days have gone by. I can remember the time when a fellow asked a girl to marry him and she'd answer 'yes' right off the bat. Now she stops to ask him questions—whether he ever loved another and all that stuff."

* * *

Henry E. Schwab, vice-president and secretary of R. J. Schwab & Sons Company, Milwaukee, Wisconsin, favored me with this story:

Two friends from a small town, one of whom had tendencies toward exaggeration, were starting for a visit to the city. Joe, who knew the other's failing, cautioned him in advance.

"Bill," he said, "I know you're a plumb truthful feller and all that. And I sure like to hear you tell it to 'em. But, by gosh, sometimes you're a little too optimistic. Why, some folks might think you were telling plain lies. Now, when we get to the city and you get sort of stretchin' things, I'll nudge you with my foot and you try to ease off a mite."

On arriving they fell in with city acquaintances who led them down to view the newest skyscraper. Bill couldn't let such an opportunity slip.

"Well enough," he said, "but,

gents, back in my town we're putting up a building that'll make this one look like the under side of a snake's tummy. Why, if you'll believe me, it's goin' to be seventy-one stories high, three-quarters of a mile long, and—" here he felt his friend's foot—"and eight feet wide."

* * *

A new light on the persistence of the eight-hour day is discernible in the subjoined clipping sent me by Harry W. Neal of the Hall-Neal Furnace Company, Indianapolis, Indiana:

At "homework" one night, Henry Smith, Jr., was assigned to tussle with one of those eternal problems beginning, "If it takes five men working ten hours a day to complete a certain piece of work—"

Next morning the answers to all the other problems were neatly written out. In place of anything in the blank space under that particular one, however, was a brief note from Henry Smith, Sr.:

"Esteemed Madam: I refused to let Henry do the sum you give him yesterday, because it looks to me like a slam on the eight-hour day. Any sum not more than eight hours he is welcome to do, and if he gets it wrong I will put in the extra two hours licking the stuffing out of him."

* * *

A good salesman develops little occasions into big opportunities, says August Luedke, secretary and assistant treasurer Milwaukee Corrugating Company, Milwaukee, Wisconsin.

He believes that the corporal in the subjoined story has the elements of a good salesman:

The division was having maneuvers for the benefit of visitors' day and everything was being let loose at once. A pretty girl was eagerly watching the performance when a rifle volley crashed out. With a

surprised scream she fell back into the arms of a young corporal who was standing just behind her.

"Oh, I beg your pardon," she gasped, blushing. "I was frightened by the rifles."

"Quite all right," replied the corporal. Then he added hopefully. "Let's go over and watch the heavy artillery for awhile."

* * *

Going after money due you is sometimes a better policy than waiting for the debtor to bring it to you, says Julius Gerock, of Gerock Brothers Manufacturing Company, St. Louis, Missouri, and he relates a story by way of example.

A bad fire broke out in a garage on the main automobile route between New York and Boston and apparatus from half a dozen nearby small towns was rushed to the scene.

When the chief of the first apparatus to arrive dashed in, he was amazed to see the proprietor sitting on a chair in the middle of the flaming structure.

"For Pete's sake, get out quick!" bellowed the chief. "This place is full of gasoline and it'll be blown sky-high any second."

"Can't leave," calmly retorted the proprietor. "A guy said he'd drop around in ten minutes and pay me five dollars he's been owin' me for a month."

* * *

Good habits are desirable in most circumstances, says B. Christianson, assistant secretary Wisconsin Retail Hardware Association, Stevens Point, Wisconsin.

But it is well to acquire the habit of changing one's habits to fit the requirements of new conditions.

He cites an illustration in this brief dialogue:

Smith: "I hear poor Sparker was killed on his very first night flight."

Jones: "Yes, it was very sad. You know old Sparker was always such a law-abiding chap. Well, the other night the moon went behind the cloud, and without ever stopping to think where he was at, he just stepped out to light the lamps."

Selling Stoves and Ranges of Obscure Brand Without Strong Help From the Manufacturer Is Poor Business.

It Is a Needless Waste of Time and Effort for the Retailer to Build Up Reputation for an Unknown Product Among His Customers.

OF COURSE, every commodity which gains an assured position in the confidence of the buying public has to pass through a preparatory stage before attaining reputation.

With everything of the best in material, workmanship, design, and practical operation, a range or stove which is just beginning its career, as it were, has many difficulties to surmount before gaining headway.

While from the sentimental point of view, it may seem a good thing for the dealer to do his share toward building up a reputation for a stove or range which possesses all the desirable qualities of its class, yet life is too short for this sort of thing.

The amount of work and money required for you to build up the reputation of an unknown stove or range in your territory would be out of all proportion to your profit.

The reason is quite plain.

Such a stove or range would be in active competition with highly advertised and standardized stoves upon which thousands and thousands of dollars have been spent in gaining good will of the people and maintaining quality and operating efficiency.

In other words, the established reputation of a stove or range is really a part of the quality of that stove or range.

No stove or range can acquire the reputation which is maintained year after year without having the essentials of high-grade material, expert craftsmanship, straightforward merchandising, and intelligently sustained dealer and customer cooperation.

All this takes time and money.

It is not reasonable to expect the dealer to undertake in his territory the development of these essentials to the building of permanent reputation.

riye from handling such a stove in the course of a year would be very much less than the profits from a stove or range of established reputation.

No retailer can afford to be a philanthropist to the manufacturer of stoves and ranges.

The dealer has his own problems, his own expenses, and his own business to maintain and develop.

A manufacturer can much more effectively build up good will for his product than the dealer, because the dealer has only one community or neighborhood in which to do business, whereas the manufacturer has the entire country for his market.

This can be made clearer, perhaps, by an illustration.

Suppose that you have need to go two hundred and fifty miles across the country.

You can walk that distance in about two weeks, if you are strong and in good condition physically.

Or, you can drive two hundred and fifty miles with a team of horses in seven or eight days.

Or, you can make the two hundred and fifty miles in one day with an automobile.

Or, on a fast train you can travel two hundred and fifty miles in about five hours.

Now, there would not be any sense in your walking two hundred and fifty miles if you are a retailer whose time is valuable. It wouldn't pay you to buy a team of horses and wagon simply for the purpose of making that trip.

It is highly doubtful if any trip of that distance would bring you enough profit to make it worth your while to buy an automobile simply for the purpose of making the journey.

Furthermore, it would be the height of folly for you to grade a



Announcing
A 15% Reduction
In the Prices of
MONARCH RANGES
And an Additional 5% Off For Cash
This new price reduction brings Monarch Ranges down to practically 50% of their former price. And when such high grade stoves are offered at these low prices, NOW is the time to buy. Monarch Ranges are sold exclusively by Sweet-Teller Hardware Co.
Sweet-Teller Hardware Co.
The Home-Kitchen Store—The Brightest Up Store—The West-End Store



Advertisement of Standardized Trade-Marked Ranges, Reproduced from the Idaho Statesman, Boise, Idaho.

The sales of a stove or range which is not yet generally known to the people will necessarily be slow, no matter how clever the salesmanship of the dealer in marketing it.

Consequently, the number of profits which the dealer would de-

road, lay steel rails, and build a locomotive solely in order to enable you to travel the two hundred and fifty miles.

At once you realize the absurdity of all this waste of time, labor, and material, to achieve your purpose.

It is precisely the same thing with merchandising stoves and ranges. The preliminary work has been done for you by the manufacturer—not for you alone, but for all dealers who retail or who may handle his product.

The wisest thing, therefore, for you, is to avail yourself of the work already done.

When you handle a standardized, trade-marked stove or range, you are traveling toward success on a well established road and by the swiftest means of transportation.

The stove and range dealers who have the largest number of sales per year are those who recognize the foregoing facts and apply them intelligently to their business.

An example along these lines is furnished by the advertisement of the Sweet-Teller Hardware Company, reproduced herewith from the *Idaho Statesman*, Boise, Idaho.

Here is a hardware firm which practices gainful advertising and uses the full force of the preliminary publicity embodied in a range of established reputation.

The advertisement is well illustrated and has the persuasive suggestion of action.

A strong inducement is offered to the prospective buyer by the announcement of the 15 per cent reduction in the prices of the standard trade-marked ranges featured in the advertisement.

The additional offer of 5 per cent off for cash intensifies the appeal of the advertisement.

The hardware dealer who is on the lookout for methods calculated to enable him to expand his business and increase his revenue, would do well to study the advertisement of the Sweet-Teller Hardware Company.

He should bear in mind the central fact of this form of publicity, namely, the giving of prominence

to a standard trade-marked class of ranges.

It is a fact of elementary knowledge that in order to sell goods the confidence of the customer must be won and held.

A stove or range becomes a staple commodity in the minds of the people only through continuous publicity which necessarily includes maintenance of quality and general satisfaction in the use of the product.

Lowest Possible Price Is Not Good for Business.

It is not a correct principle of economics that the consumer should be encouraged to pay the lowest possible price for what he buys, which seems to be the idea behind our present laws, says the *New York Commercial*.

The consumer should be expected to pay a reasonable price, which is something quite different.

The Government should not guarantee to the consumer, as if it were a moral right, that his purchase price shall disregard the rights of others.

The consumer has no moral right to a price that is below the cost of production, for such an offering is against the public welfare. Goods sold below the cost of production foreshadow the ultimate bankruptcy of the producer.

Goods obtained for less than a reasonable price represent ill-paid labor and the poverty and suffering that go with it, which is against the public welfare.

The minimum market price of any commodity should be that which provides for the producer, and for all those who carry the commodity forward in as direct a line as possible to the consumer, a fair wage for their service.

That is the most to which the consumer is entitled. It is the principle recognized by Congress for the cooperative marketing of agricultural products.

But it should be just as fully recognized in the marketing of clothing, of lumber or any other commodity.

In attempting to eliminate excess profits we have gone to the other extreme in making it difficult to make any profits at all.

Our laws are seeking to bind the business man hand and foot, while allowing farmers the greatest possible freedom.

What Congress has done for the farmers is with the idea of saving them from cut-throat competition. Having thus recognized the principle it should be extended to all alike.

Treat Salesmen as Well as You Do Your Customers.

If you do not treat salesmen with as much courtesy as you do your customers, you will sooner or later get into the habit of treating your customers with less courtesy—and, then, your business will suffer.

This thought is well expressed in the form of a dialogue, taken from "Pep," one of the publications of the Aetna Companies, as follows:

"Is the office boy on duty to keep people away from me?"

"Yes, sir."

"Is there a bench in the hall on which busy men may sit while waiting to see me?"

"Yes, sir."

"Is there a hidden lock on the gate that leads into the outer office?"

"Yes, sir."

"Has the telephone girl been instructed to ask all who call for me their name and business?"

"Oh, yes, our telephone girl knows all about that."

"And to consult me before permitting anyone to talk to her?"

"Yes, sir."

"Is everything arranged here to make it as difficult as possible for people to transact business with this firm?"

"It is."

"Good. Then I'll go into my office and make plans for our salesmen to sell other people."

The faults which a man condemns out of office, he commits when in.

Events and Progress of the Hardware Trade.

What the Retailers, Jobbers and Manufacturers Are Doing. Latest Selling Methods and Experiences of Successful Men.

Here Are Main Things in the Cost of Doing Business.

1. Interest on capital invested (say 6 per cent to 8 per cent).
2. Rent (if you own the premises you occupy, charge as rent the sum another would pay if he occupied your premises instead of you).
3. Freight on incoming goods (including packing, drayage, duty).
4. Salaries (including an adequate one for yourself).
5. Fixed expense (insurance, light, fuel, taxes, water rates, telephone, etc.).
6. Interest (on borrowed money).
7. Incidentals (stationery, post-

age, cleaning and all miscellaneous items).

8. Delivery (including horse, wagon, stable, motor car, garage, repairs, supplies, twine, paper, etc.).

9. Advertising (including all forms of publicity endeavor).

10. Losses (including bad debts, shrinkage, spoilage, leakage, donations and subscriptions, thefts, etc.).

11. Depreciation (on furniture, fixtures, horse, car, premises, stock, etc.).

These several classes of expenditure, when added, constitute the cost of doing business; but unless all items are charged the cost records are faulty.

When merchandise is bought on a rising market and sold at a reasonable profit based on replacement cost at the time of sale—and this is the basis of merchandising very largely adopted by the retailer—the result is comparatively large so-called profits. The reverse is true of goods bought on a declining market and sold on a basis of a fair profit on replacement cost at the time of sale. Our business at such period must of course show heavy so-called losses.

Need of a Merchandising Policy.

Competition, and even aside from competition, the sentiment of the buying public demands that this policy of merchandising be adhered to on a declining market. It is, therefore, not only justifiable but necessary that the same policy be adhered to on a rising market. The question that arises, therefore, is whether the results of our operations during these two periods of opposite swings reflect real profits and real losses or only apparent profits and losses.

Unwarranted Expansion of Stocks.

A great many of us were badly deceived on this very point during the time of rising prices. The merchant who considered the extra price obtained for merchandise on a rising market as a fixed and determined profit and dissipated such funds in dividends or allowed them to be used up in unwarranted expansion of stocks or equipment has learned by the painful experiences of the past two years that much profits were not actual and real.

He was totally unprepared to continue the policy of selling goods on a replacement basis during the time of severe declines, and to save himself was forced to abandon this policy and squeeze every possible dollar out of the goods on his shelves with utter disregard to the replacement cost.

Use Extra Profits as a Reserve.

On the other hand, the merchant who recognized that the extra surplus of large so-called profits accumulated during rising markets could be considered nothing more than a special reserve against which he could draw when the inevitable decline occurred, was able to continue his policy and immediately reflect in his retail price the declining replacement cost of merchandise. If he were sufficiently far-sighted, he kept this reserve in most liquid form, so that they were quickly available when needed.

Lesson of Common Experience.

Our common experience during the past few years has clearly demonstrated that the larger portion of retail profits above a fair and reasonable mark up are purely fictitious and temporary and form no basis for the dissipation of assets or the under-expansion of business.

I am speaking, of course, of the merchant who is in the business to stay and not the "fly by night" who expects to clean up on a high market and quit the game. It is unnecessary to add that I am speaking only of the merchant who is honorable and fair in his dealings with his customers and who values highly his reputation and the good will of his trade.

Convention of the Hardware Association of the Carolinas Shows Service to the Trade.

By Organized, Collective Action, the Association Brought About the Repeal of a Law Harmful to Hardware Dealers.

HARDWARE dealers in the Carolinas would be paying out from seventy-five to eighty thousand dollars a year in the form of additional expenses if it were not for the vigorous and persistent efforts of the Hardware Association of the Carolinas, whose eighteenth Annual Convention was held May 16, 17, 18 and 19, 1922, in Hotel Robert E. Lee, Winston-Salem, North Carolina.

This convincing proof of the value of trade association for retail merchants was brought to light during the report of Secretary T. W. Dixon.

Not only has the Hardware Association of the Carolinas been active in thus bringing about the repeal of a law harmful to the business interests of the hardware merchants, but it has been instrumental in teaching better mer-

chandising methods to its members and in promoting their welfare through constant service of many kinds.

The annual address of President W. M. Terrell gives evidences of the wisdom and sanity with which the affairs of the Association are administered.

The following are the main paragraphs of his instructive speech:

Extracts From Address of President W. M. Terrell.

Any study of our business losses involves a very careful analysis of our business profits and in mercantile enterprises both profits and losses arise from two main sources. In this business our stock of goods constitutes the principal part of our assets and the decrease or increase in the market value of the assets of our business reflects profits or losses on our books.

Effects of Variations in Market Values.

I refer to this increase and decrease in market values as one of the two main sources of our profits and losses, for it has accounted for the larger part of our gain and losses during the past few years.

Burdensome Federal Taxes.

There has been one factor, however, that has made it impossible to fully hedge our business against declining values by the method of setting up extra profits as special reserves against prospective losses, and that factor has been the Federal income and excess profits taxes.

The Federal government has taken a liberal share of our fictitious profits and would not permit the deduction of any amount as a reserve against future losses. The result has been that even in cases in which the balance of excess earnings after payment of taxes, have

Secretary Dixon is an indefatigable worker and he has the happy faculty of communicating the spirit of his enthusiasm to others in matters pertaining to the development of the Association.

In his annual report to the Convention, he makes brief mention of the success achieved in bringing about the repeal of the obnoxious paint law of North Carolina.



T. W. Dixon, Secretary, the Hardware Association of the Carolinas.

been carefully conserved that that balance has proved inadequate to take care of the losses resulting from declines.

In my opinion, the problem of taxes, not only Federal but State, constitutes the biggest problem that the business man today faces.

The heavy increase in expenditures by all units of the government during the past few years is a matter of grave concern to business interest and, in my opinion, is retarding business more than anything else the larger the business the deeper the cut.

Problem of Expense Accounts.

In previous years, expense accounts have reached a very high mark. Many of these items have become more or less fixed. This makes it extremely difficult to bring the cost of doing business down to the old low levels of expense. This is the problem we must face, however, no matter how difficult it is and there is no easy road to follow.

Faithfulness, energized by sustained enthusiasm, is the characteristic of T. W. Dixon, Secretary of the Hardware Association of the Carolinas, and it has been a big force in the development of that organization.

The substance of Secretary Dixon's yearly report to the membership is herewith given:

Main Paragraphs From Report of Secretary T. W. Dixon.

To begin with, business is "spotted," but in practically every section I have been told that sales and collections have been better than in 1921, and that, too, in the face of the fact that nearly all of the hardware dealers are now conducting their business on a strictly cash basis.

Comparing conditions as they have been found, with reports that we get from the entire country through reliable sources convinces me that the bottom has been reached, and that we are on the up-grade, and that the section of our country known as the Carolinas is the garden spot of the world.

Of course, you are interested in the special activities in which we have been engaged for the past year together with the services we have been trying to render the dealers. These will be stated as briefly and concisely as possible with a view to the saving of time for the discussion of more weighty and important matters.

Group Meetings.

As directed by a resolution adopted

in convention at Greensboro that the Group Meeting feature be tried out in the Carolinas to decide on its value, and whether or not the dealers would show enough interest to make it a permanent feature of our work three points were selected that appeared likely to secure the best attendance and develop the most interest, namely, Greensboro and Wilson in North Carolina, and Cheraw in South Carolina. Another point in South Carolina was considered but abandoned on account of distance to be covered in getting a representative attendance.

At Greensboro there were present 25 or 30 dealers, the interest was fine, but the discussions were confined almost exclusively to one subject. When it was suggested that plans be made for another meeting and the formation of a permanent organization no action was taken.

The Cheraw meeting was also well attended and was very interesting from start to finish. The questions discussed were how best to meet the boll weevil, and whether or not this was the time to adopt the cash basis. The consensus was that it was "now or never." It was voted at Cheraw to form a permanent organization, but we were not advised that any steps have been taken to that end.

The attendance in Wilson was disappointing, but the interest was good, and the discussions lively, nearly every one present taking part in the proceedings. The North Carolina Paint Law seemed to be the great drawing card in Greensboro and Wilson and this will be referred to later on. There are undoubtedly great possibilities for good work in these meetings, but to be of real value they should be more generally patronized.

North Carolina Paint Law.

Nothing has shown more pointedly the importance, or I should say the necessity of a good strong organization in every state in our country, or more specifically in our own state, than the defeat or repeal of a very obnoxious and expensive paint law inadvertently passed by the 1921 General Assembly.

This law if allowed to continue in force, by a careful estimate from reliable data would have cost the hardware dealers from seventy-five to eighty thousand dollars annually. By a carefully planned campaign directed by your N. C. Legislative committee composed of D. F. Conrad, Chairman, W. K. Holt and W. T. Watkins, the repeal of this bill was secured through a special session of the Legislature in November.

This committee deserves at your hands your cordial commendation and a vote of thanks for the splendid work done by them at the expenditure of much time and thought, and you know "time is money."

Field Work.

No complete record has been kept showing the exact number of miles traveled by the Secretary during the year, nor of the firms visited. By the consent of your Executive Committee he was allowed to purchase an automobile for the Association to expedite the work, and the speedometer records more than 7000 miles to which can be added almost a like number with a friend in his car covering the same territory. The results of this canvass will speak for themselves.

Suggestions and Plans for Window Displays.

Instructive Examples from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

WINDOW DISPLAY GETS HONORABLE MENTION.

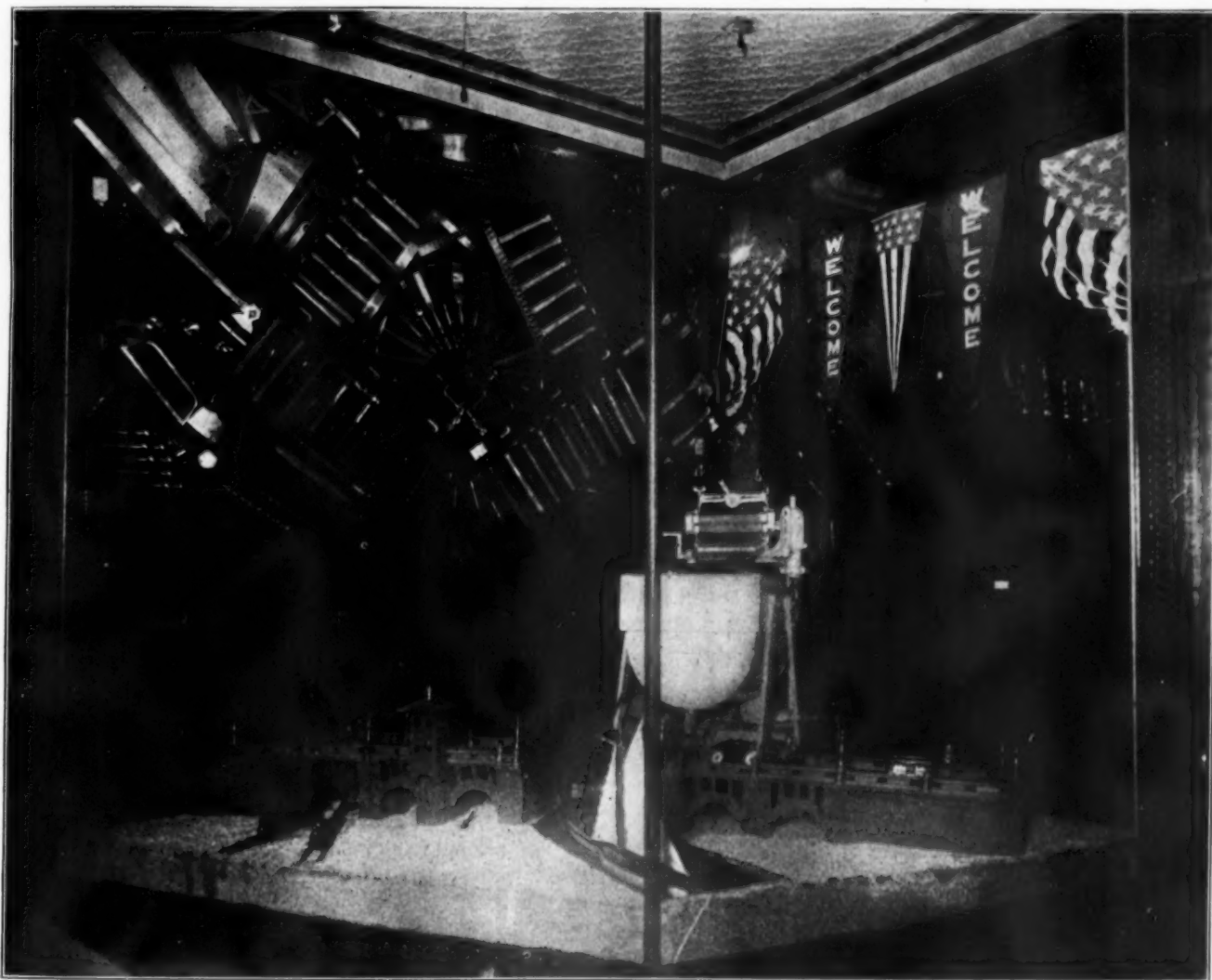
The window display of Jornt Brothers, 117 Milwaukee Avenue, Kenosha, Wisconsin, produced so strong an impression on B. P.

was written by Mr. Christmann as follows:

"This window display has a double significance, inasmuch as it is a miniature construction of the new Main Street bridge, and also it is built of materials and supplies

accomplished anything extraordinary.

"Again, I feel that they have accomplished something, for they will enjoy much lasting free advertising as long as the new Main Street bridge stands, for every day almost



Window Display of Hardware Arranged by Jornt Brothers, 117 Milwaukee Avenue, Kenosha, Wisconsin, Awarded Honorable Mention in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

Christmann of that city, a student of journalism at the Northwestern University, of Chicago, that he persuaded the firm to have a photograph made of it and to have it entered in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

The description of the display

kept in stock, which again advertises goods handled by these aggressive hardware men.

"When I suggested that this window display be photographed and same entered in the window display contest, Jornt Brothers were somewhat modest in declaring that they did not believe they have

we hear somebody remark when talking of the new bridge:

"Did you see the little miniature bridge Jornt Brothers had in their window? It was an exact likeness of this bridge."

"Many citizens visited the store and remarked that the little bridge was a peach and it was built of

everything handled at this store.

"The bridge is built of common box lumber to form the frame to fasten hardware to it. This frame was covered with sand paper to represent concrete; the railings of the approach on each side of the lifts were small pocket knife stones and scythe stones.

"Door stops were used for posts on the railing and hose nozzles on top of them were used as light posts with Christmas tree electric lights connected, which were burning at night. This attracted much attention when the store was closed and the street dark.

"Street car tracks were tracks used for show cases, a miniature street car and automobile were placed on the bridge, red slate roofing was used for paving between the tracks and on the road bed green slate roofing answered for sidewalks.

"The lifts of the bridge were made of nails, sets, hacksaw blades, and horse combs for railing. The iron structure under the lifts were small quilt frame clamps.

"The supports for trolley wire were 8-inch round files.

"The bridge work on lifts for trolley supports were 6-inch taper files, hacksaw blades and door buttons. The roof of the bridge-tender's house were brick bonds. The bottom of windows were false, raised 6 inches from the other, so that a pan of water could be placed for small miniature tug boat pulling sail boat, about to pass through the bridge.

"This accounts for the lifts being partly open. The railroad tracks were clothes pins as rail ties and show case tracks as rails, and small locomotive and freight coal cars, switching to manufacturing plants."

"This window display," say Jornt Brothers, "was one of the best, in our opinion, that has attracted customers and citizens to our place of business. This window display was not shown to the public until the day the new Main Street bridge was opened to traffic."

"Business building sometimes demands 'bridge-building.'"

One member of the above-mentioned firm, William Jornt, takes much pride and an active interest in civic affairs. He was instrumental in the formation of The Kenosha Advancement Association, of which he is Treasurer.

Who Makes the "Winner" Chicken Incubator?

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Can you advise me who makes the "Winner" chicken incubator?

Yours truly,

A. F. SCHEMMER.

—, Iowa, May 4, 1922.

Keep on Getting New Prospects to Add to Your List.

In order to maintain his average of business—to say nothing of increasing it—the hardware dealer must keep on getting new prospects to add to his mailing list.

Many sales managers say that one reason for the ups and downs of their men is to be found in their reluctance to do missionary work.

The salesman is eager to close business, and hesitates to make a call that does not promise immediate results.

Yet confining one's attention to a limited number of prospects means that in time the amount of material to be worked up will reach the vanishing point, and the sales volume can not be maintained.

Hence it is necessary to keep the salesman interested in getting in touch with new prospects and doing the work that is needed to bring them to the point where they can be closed.

Faith in one's abilities has considerable power when applied to human endeavor.

* * *

Never mind the man who talks about you, but beware of the friend who tells you what the "other fellow" said.

Coming Conventions

Mississippi Retail Hardware and Implement Association Convention and Exhibit, Fair Grounds, Jackson, Mississippi, May 24, 25 and 26, 1922. Headquarters, Heidelberg Hotel. E. R. Gross, Secretary-Treasurer, Agricultural College, Mississippi.

American Society of Heating and Ventilating Engineers, Semi-Annual Meeting, June 5, 6, and 7, 1922, Hotel Iroquois, Buffalo, New York, and June 8, 9, and 10, 1922, Hotel Wolverine, Detroit, Michigan. C. W. Obert, Secretary, 29 West Thirty-ninth Street, New York City.

Metal Branch National Hardware Association, Hotel Statler, Cleveland, Ohio, June 9 and 10, 1922. W. H. Donlevy, Chairman, 1012-14 Cherry Street, Philadelphia, Pennsylvania.

Associated Advertising Clubs of the World, Milwaukee, Wisconsin, June 11, 12, 13, 14 and 15, 1922. Carl Hunt, Secretary, 110 West 40th Street, New York City.

National Retail Hardware Association, Chicago, Illinois, June 19, 20, 21, 22 and 23, 1922. Headquarters, Hotel Sherman. Herbert P. Sheets, Secretary-Treasurer, Argos, Indiana.

Master Sheet Metal Contractors' Association of Ohio, Zanesville, Ohio, July 18 and 19, 1922. W. J. Kaiser, Secretary, 123 East Chestnut Street, Columbus, Ohio.

Sheet Metal Contractors' Association of Pennsylvania, Hotel Lawrence, Erie, Pennsylvania, July 27 and 28, 1922. W. F. Angermeyer, secretary, 714 Homewood Avenue, Pittsburgh, Pennsylvania.

Retail Hardware Doings

Illinois.

The LaGrange Hardware Company of LaGrange has moved its stock from the corner of Fifth and Harris Avenues to 23 South Fifth Avenue.

Melven McCracken has purchased the hardware business of Gideon Buckmaster at Ramsey.

The hardware business of John H. Foster at Shelbyville, who has been in the business sixteen years, has been sold to H. H. Payne.

Louisiana.

The Marx Hardware Company has filed articles of incorporation for the purpose of doing a general hardware business at Monroe. Incorporators are: Joe Marx, Jr., president and general manager; Estelle Marx, vice-president, and Albert Weil, secretary and treasurer. The company is capitalized at \$10,000.

Missouri.

The Koch and Heitner Hardware Company, 2249 Benton street, St. Louis, Missouri, has been damaged by fire. The loss is estimated to be \$3,000 to the stock and \$3,000 to the building.

J. C. Gafford has sold the Lathrop Hardware stock at Lathrop to Lee Costello of Kansas City.

Wisconsin.

The stock of the Puestow Hardware Company at West Bend has been taken over by the West Bend Construction Company.

Study and Interpretation of Advertisements.

You Can Make Your Advertisements More Gainful by Avoiding the Faults and Profiting by the Good Qualities of Others.

Hardware dealers looking for an unusual form in which to cast their advertisements will find profitable suggestions in the advertisement of Roper's Hardware, reproduced herewith in full size from the *Eagle Grove Times*, Eagle Grove, Iowa.

It will be noted that with the exception of the list of grass seed

backed with reasonings regarding the proper starting and care of lawns.

Surprising as it may seem, there are hundreds of city folks who know nothing about the correct methods of beginning and caring for a lawn.

In a few brief but comprehen-

The arguments of the advertisement are strongly clinched by the concluding paragraph in which the prospective customer is urged to protect his outlay of time and trouble by using good tools and fresh seeds.

Then Roper's Hardware offers for his consideration three classes

Ask For Our Folder—

"THE CARE OF YOUR LAWN"

—Compiled from authoritative reports by soil scientists, horticulturists and landscape gardeners.

How To Start the Lawn

If your plot is small, dig it up the depth of a spade or digging fork. If large, plow it. The top soil should be from 6 to 10 inches deep if the sub-soil is gravel—12 inches or preferably more if the sub-soil is a stiff clay.

Next, break the soil uniformly into as many particles as possible with a plow or spade, then rake it thoroughly with a steel rake until the whole surface is even. Apply liberal amount of weedless manure, 1000 pounds per acre is not too much. This is the only time at which humus can be applied without breaking up the lawn.

Should it be necessary to drain the ground artificially it should be done as soon as the grades are established by someone who knows just what points to drain from and to. If the top soil be

too shallow, place filler under it. This filler should be either good garden soil or top soil from a meadow.

Feeding the Lawn, Old and New

All lawns are improved by dressing with wood ashes and bone as soon as the grass has become dormant in the fall. This provides phosphoric acid and potash. These and ammonia are the three chemicals necessary to plant life and to a lawn's perfect condition.

The ammonia is provided in animal manure and tobacco stems. Apply it in the early spring shortly before the ground thaws. Rake off by the middle of March as all the nutriment has been absorbed by that time. Then spread bone meal at the rate of 800 pounds per acre. This will be of lasting benefit.

Occasional applications of manure are splendid with new lawns

pecially large lawns. Soil in shady places must be frequently fed with fertilizer or manure. This is especially true of soil under trees, for trees require a great deal of moisture and fertility and their roots rob lawns for quite a distance.

A smooth, velvety, uniformly green lawn costs considerable care and money to put in. Preparing the soil and sowing the seed necessitate expense and exertion.

Protect your outlay of time and trouble by using good tools and fresh seeds. We offer:

Kentucky Blue Grass—
Per pound65c

White Clover—
Per pound75c

Lawn Mixture—
Per pkg., 10-oz.25c

Wire Lawn Rakes, \$1.25, 75c, 50c
Steel Lawn and Garden Rakes,
\$1.25 to 50c.

Fresh garden seed in bulk.

Roper's
Hardware

The Winchester Store

and lawn tools at the end of the third column and the name of the store in heavy type, this advertisement is set up in the ordinary reading text of the newspaper.

Therefore, the first impression which it produces is that of news.

That is to say, in the main, it has the physical characteristics of a story.

In this form it is easy to deliver an instructive selling message

sive paragraphs the advertisement tells the prospective customer how to start the lawn, advising that the soil be broken uniformly into as many particles as possible and counseling liberal use of fertilizer.

The three chemicals necessary to plant life and to a lawn's perfect condition are then specified.

The advertisement goes on to tell what to do in order to keep old and new lawns in good condition.

of lawn seeds and states clearly the prices for each.

The advertisement closes with price quotations of wire lawn rakes and steel lawn garden rakes.

Worthy of especial praise is the directness of this selling message.

The words are addressed straight to the reader. That is to say, they are not in academic form.

The text is personal, plain, and instructive.

Western Warm Air Furnace and Supply Association Shows Great Progress in Its Convention at Indianapolis.

Better Trade Relations between Dealer, Jobber, and Producer Have Been Developed through Education and Friendly Service.

FROM the point of view of practical achievement for the good of the trade, the Convention of the Western Warm Air Furnace and Supply Association, held May 15, 1922, in Hotel Severin, Indianapolis, Indiana, was one of the most resultful meetings in the history of the organization.

Recognition was given to the pressing need of a warm air furnace code by the assembly through the approval of the code upon which joint committees of various associations connected with the warm air furnace industry have been working so long.

A distinctly helpful tone characterized the report of President R. W. Menk, in his annual address to the Association, which is here reproduced in full.

Report of President R. W. Menk.

I am glad of this opportunity to report the activities during the past few months as they relate to our Association.

We all know that commercial conditions in our industry during the past several months have not been all that we had hoped for. I am sure you all are familiar with the present commercial conditions as they relate to the territory in which our Association exists and believe you will agree that it will require patience with the dealer and his largest customer (the farmer) as well, and that both the manufacturer and jobber should do all they can to help encourage them.

Period of Prosperity Approaches.

We all believe that a period of great prosperity is approaching, but like the big locomotives it cannot start up on full speed. While 1921 afforded opportunities and the past five months of 1922 have shown much improvement. The prosperity we hoped for is still in the future and it behooves the members of this Association to exchange ideas frequently and to do everything possible to speed up the wheels of industry.

Unethical Business Practices.

We all seem agreed that prices are at the very lowest level and in fact in some cases prices are being quoted that appear much below actual production values. Certain firms are also using methods and tactics to obtain business that seem quite unethical and unbusiness-like, and it appears that the time has arrived to put forth an effort to stop by fair means the continuation of such, and it would please your officers and directors to have you express yourselves

freely upon this subject so that they may act in accordance with your wishes.

Not all of the things we planned at our last meeting have made as much headway as we had hoped for—nevertheless progress has been made and I am sure that the balance of the year will result in much additional progress.

Topics Suggested for Discussion.

The furnace code, the Membership and Sales Promotion Committees will render their several reports and I am sure you will be pleased with their efforts. I wish also to suggest the appointment of a Committee on Trade Relations which it seems to me would be a branch that could do much to cement more closely the manufacturers and jobbers with the dealer to the end that the dealer know more about estimating, installing, selling and etc., and by those means gradually raise the warm air fur-

will play a big part in shaping the future warm air industry.

Hard Tasks Remain To Be Done.

I can not refrain from saying that there is a rough road ahead. I can not resist mentioning some of the very hard tasks that will be required of you nor the disappointments we will have to meet, before the majority of the ideals are well upon their way to success.

As the youngest organization it is but natural that their efforts will meet with strong resistance.

Our ideals (while perhaps not higher than others) are our chief aim and every attempt to enforce them will again (at times) be opposed.

These conditions, however, are only a repetition of the past for in all ages and at all times men have had to strive for ideals and pay for leadership, and 1922 will be no different.

That sincere desire for the general improvement of the industry is prevalent throughout the membership of the Western Warm Air Furnace and Supply Association was strongly manifested throughout the morning and afternoon sessions of the convention.

This spirit of advancement received adequate expression in the excellent paper by E. I. Dodd of Sioux City, which was read by George Harms. The salient paragraphs of Mr. Dodd's essay are as follows:

Extracts from Paper of E. I. Dodd, Read by George Harms.

We have attended this Convention for the good we get out of it while here, and the good we will get out of it after we have again reached our places of business, and immediately upon reaching home, we begin to assimilate the new thoughts and ideas gained while here.

Can the Industry Be Improved?

I trust there are none among us opposed to improvement—an improvement means a progress from good to better, valuable additions to the past, and the thought comes to us at once, as we speak of improvement, "Can the Industry with which I am connected be improved? Are there any valuable additions I might make to my business to improve it?"

The next thought is, "What can we do, what can we add that will improve our industry? We have our great factories, covering acres, equipped with the most modern equipment known to the world, an army of skilled workmen, the most modern brain forces that the institutions of learning of the world could produce, to direct these projects, an industry which seemingly has reached a zenith incomparable to anything the



R. W. Menk, President.

nance to the high level that it belongs. A free open discussion upon the subject may result in much benefit.

I believe what I have said covers my report fairly well, but I can not refrain from saying that it has been a pleasure to have served you as your President for the past few months for it has given me an opportunity to judge the caliber of the men who go to make up this association.

Through personal contact and through correspondence I have been afforded the opportunity to judge the unselfish manner in which the many members are working to bring about the things that this Association was organized for.

I have had the opportunity to gauge the very heavy task that its founders set before them and further to see how unflinchingly they have accepted every duty they were asked to perform and can say without reservation that unless something unforeseen arises this association

world has ever known—what more could we wish for, what more could we hope for?"

Integrity, Efficiency and Laws.

My answer is, "Integrity, efficiency, and law, in our business, and in our methods of doing business." Integrity in business means wholesomeness, and uprightness in Business Efficiency, a power of producing effect. Law, a just rule of action. One of our most eminent jurists has stated that to eliminate integrity, efficiency and law from society and business would reduce the human race to the worst sort of barbarism, and that all Christian nations have been brought up to their standard through educational lines in Integrity, Efficiency and Law.

A Just Rule of Action.

Applying the three terms separately, Integrity comes first in manufacturing, selling and delivering a piece of goods whose merits are above reproach. Efficiency, a piece of goods that will perform the service it was designed to perform. Law, a just rule of action in our business.

It is not my purpose at this time to discuss the different articles in the proposed Installation Code, drafted by six men appointed by interested organizations. But suffer me to say that with the differences of opinion that existed six or eight months ago on what should constitute a Code, or specifications for warm air heating, doubtless great progress has been made in this work that will be of lasting benefit to the Industry.

I wish to cite some of the most valuable experiences of my life, gained during the last few months, by coming in direct contact with those who are most affected by the Code, or specifications—the Retailer. We have had a Local Sheet Metal Contractors' Association in Sioux City for about two years. A few months ago we reorganized, changing our by-laws and constitution, allowing everybody in the city in the sheet metal business to come in.

How Sioux City Local Studies Problems.

The idea of many of the original members was the worst man in the city would do less harm being a member of the Association than if he was left outside. After our reorganization, a Program Committee was appointed, and every two weeks, Monday evening, we first have a business session and then our Program.

Our first program was the institution of a new Sheet Metal Shop. The first thing that came up was a name. Then we selected Jones & Brown, as partners, to run it; next came capitalization, equipment, stock and overhead expense, hanging gutter and a general line of sheet metal work and furnace installation, and, Gentlemen, I am unable to describe to you how very interesting our program hour has become, and while I am not going to "tell any tales out of school," yet I am going to state again, it has been the most valuable experience I have ever had in the heating business, for it has taught me that the average Retailer is doing the best he can, with the knowledge he has been able to gain, also that he thirsts for a greater knowledge of his business.

Must Agree on Mode of Education.

I cite these minor incidents for this reason: that it is my belief that the manufacturer and jobber has gotten to

the place where we must agree upon some mode of educational action—a plain understandable line of theory and practice. Then let every manufacturer and jobber in the United States print it in his catalog, print it anywhere, but print it so the retailer may get it and profit by it.

Pleads for Agreement on Specification.

And I wish to plead with this Association today, that we rise to the opportunities before us, and if we can not all agree, let the majority of us agree to a specification that is understandable, practical and educational.

Let me say in conclusion that my only thought and desire is for the upbuilding of an industry in which I have chosen to spend the greater part of my life. I might have come to this Convention care-free, and enjoyed only the congenial part, of which there is much, and I am very much pleased that there is. But, with my interests centered upon the much needed improvement, I enjoy as well the fray of this legislation campaign, and with the same hearty co-operation



John H. Hussie, Secretary.

of the members of this Association in the future as in the past, the legislative branch of the Association must, and will, win Integrity, Efficiency and Law for our Industry.

Dealers and installers, as well as manufacturers and jobbers of warm air heaters, are sure to derive much helpful instruction from the thoughtful and scholarly address on "Furnace Ratings," by V. H. Parks.

The main paragraphs of this address are herewith reproduced. The concluding portions of Mr. Parks' address will be published in a forthcoming issue of AMERICAN ARTISAN AND HARDWARE RECORD.

Quotations from Address by V. H. Parks.

At our last meeting in Des Moines, Mr. McHenry of the Bridge-Beach Company, very broadly and eloquently called our attention to the glaring irregularities

that exist in furnace ratings of furnace manufacturers.

At that time it seemed necessary for some one else to continue the subject at this meeting, and the one reason that I am here today is because the method of rating under discussion is the method I have been using for two years.

Defines British Thermal Unit.

In order to make any calculations at all there had to be some way to measure heat, and as you know, the established measure of heat is the British Thermal Unit, and is the amount of heat that is required to raise the temperature of one pound of water one degree, or it will raise the temperature of one cubic foot of air 55 degrees. This is the basis from which heat calculations are made.

The clearest way in which to go over this matter, is to undertake to heat a house, and I think that the method to be followed in heating a house is not very much different from the method which any one of you would employ if you were to build a house, and that is about as follows:

Find Out How Much Heat Is Needed.

If you were to build a house, you would first attempt to find out what material you would need to build it with, and in this case I am sure that the first thing to be done is to find out how much heat we need. Now, bear in mind, that we find it necessary to heat this house because the heat in it has been lost, or transmitted or leaked out of it, and it is evident that the amount of heat that we are going to need to heat this house will be the amount of heat that will from now on be transmitted, or will leak out of the house. In order to find out what this amount will be, we take a little book called "Heat Transmission Tables" as our guide, and we find across the top of page 3 which is the first data sheet and refers to the heat loss of the glass surface of the room, about twenty-four well known authorities.

Heat Loss Through Glass Surface.

These authorities, having expended hundreds of thousands of dollars in laboratories and testing, say that the amount of heat loss to one square foot of glass surface, per one degree temperature difference is about 1.09 heat units per hour.

By temperature difference, we mean the difference in temperature between the outdoor air, and the air in the room which is being heated.

Temperature Difference.

It is the best practice to figure that the thermometer outside would stand at about 20 degrees below zero, and we naturally want to heat the temperature of the room to about 70 degrees. Therefore, there would be a temperature difference of 70+20, which is 90 degrees. This 90 degrees multiplied by 1.09 makes 98, or the number of heat units that are lost per hour through every square foot of glass surface in the room. Could anything be more simple, or any more plain, or any easier to do, or more easily understood? You will also bear in mind that when we have gone through just a little of this calculation that we will have established some tables, so that only a very small fraction of the work has to be done again.

Loss by Transmission.

Continuing, we look over pages 6, 7, 8, 9, 10, 11 and 12, and even more of the same book, and find that the same authorities say that in the walls of the

common house, which are composed of lath and plaster, and studding and sheeting, the loss by transmission is about .30, or a third of a heat unit, per square foot per hour, per one degree of temperature difference. We again multiply this .30 by 90, and we find out that 27 heat units are lost by transmission through every square foot of wall surface per hour, in this kind of a house.

Infiltration or Leakage.

Next comes the infiltration or leakage, and by reading the best authorities that I could find, the leakage in a common house is about once its cubic contents per hour. Therefore, if we take one cubic foot, and multiply it by one change, and then by 90, and divide it by 55, we will have the number of heat units lost per hour, per every cubic foot of air that the house contains, and that is 1.64. You will naturally see that the 90 is the temperature difference, and that the 55 is the number of cubic feet that the one heat unit will raise one degree in temperature.

We now have before us the following list of heat losses:

Glass Surface per square foot per hour, 98 heat units.

Common Wooden Wall per square foot per hour, 27 heat units.

Infiltration or leakage per cubic foot per hour, 1.64 heat units.

Total Loss Per Hour.

Nothing could be easier than to multiply the number of square feet of glass and exposed wall by the number of heat units lost per hour, and the number of cubic feet of contents of the room by the number of heat units lost by leakage per hour, and add them all together, and find out the total loss from any room per hour. By doing the same thing to the other rooms, and then adding the results together, we find the number of heat units that would be lost per hour in any given house.

Please bear in mind that when you have done this, you do not have to think, "Well, now, let us add on something for emergency," because if you have done your work right, you will not have to add on other than for north and west exposures, which are added with the square feet of glass and wall surface. And will it not be a little comforting to think that when you have thus obtained the heat loss of a house, that you have obtained it in the manner by which the best heating engineers in the world obtain heat losses, whether they are going to heat the building with a large fan system, or with direct radiation? Would it not also be comforting to know that

if you wish to take in outside air, that you could easily allow so many cubic feet of air for each person that was to be in the room, and when you had found the total number of cubic feet of fresh air required, that you could easily obtain the heat loss by treating the cubic feet thus found, as leakage?

Heat Loss Schedule.

Please refer to the page which some of you are holding, and which is our heat loss schedule. You will see it is easy to use, and easy to check. What I mean by checking, is that the square feet of glass and the square feet of wall surface and the cubical contents of each room is given, and also the factors for heat losses which are multiplied by the areas and contents, and that all are extended into the heat loss column and added together for the total loss, and are easily gone over by a second person. It is equally easy to recheck the number of feet of glass and wall and contents.

We have now learned how to find out the amount of heat that will be required if we were heating a garage, and there was a thin kind of a roof over it. In other words, if it were a one-story building, there would be a terrible heat loss from the roof. Also, this garage would probably have a cement floor, and it is well known that these floors are very cold.

The same books that we use as our authority, and the very same authorities which we have referred to before, give the heat loss for nearly every kind of building material that we ever heard of, and for cement floors, and for wood floors, laid on the ground and many more conditions than will ever be met in our small line of work.

Figuring Jobs Out of the Ordinary.

I want to say right here, that it was the everlasting garage business, and the churches with bad roofs and bad ceilings, that got me up in the air so that I simply had to dig in, and find out how to figure a job that was a little out of the ordinary, and I don't think I am missing it very far when I make the statement that about 2 per cent or possibly not more than 1 per cent of you men who are sitting in front of me now, could tell how big a furnace you ought to have to heat a garage or church building if the conditions were a little bit out of the ordinary. I know very well that when I have tried to get help on matters of this kind, that I have met with anything but success, and it was not because the men I asked did not want to tell me, or did not want to help me, for they would own up that it was a matter

of guess work, and good luck with them.

Please notice that until I began to dig into this, that I was not one of the two per cent who really know how to estimate correctly the required pipe and furnace sizes.

Thus far we have only considered the heat losses, but we yet have two other subjects to consider.

Pipe Sizes and Furnace Sizes.

One is the pipe sizes, and the other is the furnace size.

We have found that the total heat loss as summed up on the chart is 95,494 heat units per hour, for the entire house, but as the next step in calculation is finding the necessary pipe size for the different rooms, we will take the room No. 1 as an example.

The loss from this room is 17,393 heat units per hour.

The methods involved in this calculation are entirely different and we must first eliminate from our minds all thought of heat losses, and how they occurred, and must remember only that we have to provide a pipe which will carry 17,393 heat units from the furnace casing to the room, having assumed what will later be discussed, that the necessary heat or 17,393 heat units will be provided by the furnace.

Three Factors of Calculation.

In order to work out this matter, we must as before, owing to the shortage of testing laboratories in my office, and inability to use one, refer again to those men who have dedicated their energies to these researches, and select three factors, on which to base our calculations. They are:

(a) The velocity of the air in pipes per minute;

(b) The temperature of the air at the register; and

(c) The temperature of the air entering the furnace casing.

These three factors do not vary as much as one would expect, when taken from real authorities. They are factors that have been quite widely discussed by the average furnace installer, and I think their comments have been based on what we call average conditions.

Now, we are not in any sense of the word talking about or basing our figures on average conditions, but are basing our calculations on the fact that we have to convey or carry 17,393 heat units from the furnace to the room in one hour.

One moment please, for a necessary digression. This average condition is not ignored, but will appear in its proper place a few minutes later.

FURNACE JOB SCHEDULE.

Contractor—Sample Job. Owner.
Heat loss in B. T. U. per hour, per one sq. ft. at 90° temperature difference.

Description		Exposed			Leakage		Total		Basement Pipe		Register		
Room.	No.	Glass Sq. Ft.	Wall Sq. Ft.	Contents Cu. Ft.	Glass @ 98.	Wall @ 27.	per Hour.	B. T. U. per Hour.	Diameter.	Area.	Style.	Size.	Finish.
Hall	1	60	287	2285	5880	7749	3764	17,393	12	113	R. I.	No. 12	O. C.
Living room	2	35	217	1775	3430	5859	2878	12,167	10	78	R. I.	No. 10	O. C.
Dining room	3	47	187	1746	4606	5,049	2863	12,518	10	78	R. I.	No. 10	O. C.
Kitchen	4	33	293	1755	2,234	7,911	2878	14,023	12	113	Floor	12x14	B. J.
2nd Floor—													
Bed room	5	32	166	1104	3,136	4482	1810	9,428	9	64	R. I.	No. 9 1/2	O. C.
Bed room	6	30	206	1552	2940	5562	2545	11,047	10	78	R. I.	No. 10 1/2	O. C.
Bed room	7	32	204	1468	3136	5508	2407	11,051	10	78	R. I.	No. 10 1/2	O. C.
Bath room	8	29	147	644	2842	3969	1056	7,868	8	50	R. I.	No. 9 1/2	O. C.
Total		298	1707	12,319	29,204	46,089	20,201	95,494		652			
C. A. Returns.													
From Room.	No.	Pipe Diam.	Area.	Style.	Size.	Finish.	Requirements						
Hall	1	20	314	Wood	20x30	Oak	B. T. U. 95,494						
Dining room	2	20	314	Wood	20x30	Oak	Grate Surface 2.39 Sq. Ft.						
Total			628				Warm Air Pipe Area. 616						
							95,494 ÷ 155 = 616 Sq. In.						
							C. A. Pipe same as W. A.						
											Used		
											Furnace One	Capacity.	
											Number	108,400	
											300	2.66 Sq. Ft.	
											Weir	668	
											Furnace	668 Sq. In.	

Quotes Professor Willard.

After having hunted through a great many authorities, I am glad to return to Professor Willard's Bulletin No. 112, pages 37-43 inclusive, and having studied and analyzed tables 2 and 5 with the utmost care and absorbed all that I am able to comprehend of their final results, I am thoroughly satisfied that they substantiate and prove all of your ideas and my ideas relative to both air velocities, and register temperatures as we find them in actual practice, and under existing average conditions. Just before assuming these factors, please remember that we take as our bases, the maximum. From page 40 of Bulletin No. 112, I quote the following:

"A satisfactory basis for designing, and also for rating, required a register temperature of between 175 and 185 degrees Fahrenheit, which has been used by Mr. Pratt in applying these data to a typical house heating design."

We assume these factors:

170 Feet per minute, velocity of air in basement pipe.

185 degrees Fahrenheit temperature of air at register.

650 degrees Fahrenheit temperature of air returning to furnace casing.

Amount of Air Passing Through Furnace.

With register temperature 185 degrees, and return air temperature 65 degrees, the air must be raised 185 degrees—65 degrees or 120 degrees in passing through the furnace casing. Then if one heat unit raises 55 cubic feet of air one degree, 17,393 heat units will require 17,393 times 55 which is 956,615 cubic feet of air needed to absorb the 17,393 heat units, if the air is to be raised only one degree. But, as we are raising the temperature of this air 120 degrees, we need only 956,615 divided by 120, which is 7,972 cubic feet of air, we must have to absorb the 17,393 heat units, and this amount of air must be passed through the furnace every hour to heat room number one.

The only thing left to do now, is to find out how large a pipe we need to carry 7,972 cubic feet of air in one hour at a velocity of 170 feet per minute.

Plain mathematics.

One hundred seventy feet multiplied by 12 makes 2,040 inches per minute, and 2,040 multiplied by 60 equals 122,400 cubic inches per hour, and 122,400 cubic inches divided by 1,728, which is the number of cubic inches in a cubic foot, equals 70.83 cubic feet of air which will be delivered by one square inch of pipe area per hour.

In order to deliver 7,972 cubic feet of air in the same one hour, we divide 7,972 by 70.83 and have approximately 112 square inches of pipe area. The same calculation applies to all of the other

rooms and will apply to the marked total on heat loss schedule.

Now, before you say this is too much work, let us look at our page No. 81, and we find it all worked out in pipe sizes up to 60 inches in diameter, and for the second and third floor as well as the first floor. Please notice that in order to find the required pipe size, you simply run down column No. 3, which is the



F. L. Nesbit, Member Executive Committee.

first floor column, until you come to the quantity nearest to 17,393, and in that line and to the left you find both the pipe area, and pipe diameter you need.

Heat Unit Efficiency of Pipe.

I give both columns, so that if conditions make it necessary to use a square pipe, the area will be readily available.

In arriving at a pipe size for a second or third floor room, the procedure is the same, except that you run down column No. 4 for second floor pipes, and column No. 5 for third floor pipes.

I cannot see that it is any more work to have the pipe rated in heat unit efficiency than it is in square inches of pipe area.

Now, the average condition matter, and we will have finished the pipe rating and size phase.

First, this room No. 1 with 60 square feet of glass surface and 287 square feet of exposed wall surface, and 2,285 cubic feet of contents estimated by (I believe) the most used rule, which is glass surface plus 10 per cent of the exposed wall surface, and 1 per cent of the cubical contents, will require 112 square inches of pipe area. Also, if this heat loss in this same room No. 1 has been estimated at zero temperature, the temperature difference would have been 70 degrees

instead of 90 degrees, and the heat losses would have been in heat units per hour, as follows:

For glass, 76; for wall surface, 21; and for infiltration, 1.28; and the total heat loss only 13,513 heat units per hour. And at a register temperature of 165 degrees and a velocity of 150 feet the plant would be operated under average conditions.

But, if we were to make the pipes so large that when the outside temperature was 20 degrees below the velocity did not have to be above 140 or 150 feet per minute, nor the register temperature above 150 or 160 degrees, then the pipe would take up too much room in the basement, and is a condition which must be avoided.

The ethical aspects of the warm air heater industry were treated in constructive manner by Dr. John P. Wagner, who expressed the conviction that the inherent good in human nature is demanding better conditions and everyone, to some extent, is striving for better conditions for himself and his community.

The following extracts embody the chief features of Dr. Wagner's address:

Extracts from Address by Dr. John P. Wagner.

The transformation in the industrial world during the past year has been phenomenal in as much as a desire of every well meaning, honest intending man has been to seek a better relation between his fellowman and himself.

All Want Better Conditions.

The commercial world had been indulging in malpractice and had applied the rubber rule to most of its actions until it had become a mob of evil-doers, practicing the reverse of the Golden Rule. War was the culmination of this universally dominant thought and from the great calamity we have been passing through to the period of sober reflection which has been a balm to those who have sought earnestly to extradite themselves. Thus, we are today passing into a more stable condition in our phase of human endeavor. We find that the inherent good in the human being is crying out for better conditions and everybody in some degree, at least, is striving for better conditions for themselves and for their fellowmen.

Great things have been accomplished towards this betterment. Social, moral, commercial and industrial conditions are being gradually restored; much is yet to be done to restore ourselves to normality. Statistics show that one and one-half million families are not properly housed, families who are today crowded on account of the inadequate housing condition and perhaps no existing situation has more to do with the present status of morale.

Great Increase of Building Activities.

The dawn of day has broken in this situation and building activities are well under way all over the country and we are told that it would require twenty years to build the one and one-half million homes which are needed. Thus, we have the assurance of the constant

20° BELOW ZERO.
NUMBER OF B. T. U.'S DELIVERED PER HOUR.

Pipe		1st Floor Vel.		2nd Floor Vel.		3rd Floor Vel.	
SIZES		170. B. T. U. Per M., 155.		250. B. T. U. Per M., 225.		300. B. T. U. Per M., 270.	
Diam.	Area.						
1	2						
4	13	2,015		2,925		3,510	
5	20	3,100		4,500		5,400	
6	28	4,340		6,300		7,560	
7	38	5,890		8,550		10,260	
8	50	7,750		11,250		13,500	
9	64	9,920		14,400		17,280	
10	78	12,245		17,775		21,330	
12	113	17,515		25,425		30,510	
14	154	23,870		34,650		41,580	
15	177	27,435		39,825		47,790	
16	201	31,155		45,225		54,270	
18	254	39,870		57,150		68,580	

increase in the activity along this line. Social and economic questions are being dealt with in a very effective manner and the great problem of business integrity and relations between manufacturers, retailers and consumers are being worked out and substantial evidence is at hand at this hour that effective results are being obtained.

Matter of Trade Relations.

Thus, we come to the theme which I have been asked to speak on; namely, trade relations. It is, of course, expected that we are to handle this question from a standpoint pertaining first to our industry.

Golden Rule Is Vital to Business.

The rubber rule is being cast aside; the Golden Rule is being used in its stead and who would question that this condition is vitally necessary in the industry which we represent?

Conditions have been prevalent under which no better business conditions could be established. Cut-throat methods have been employed and the tendency has been to produce a cheap product rather than an efficient standardized product that would give satisfaction. The crimes that have been committed by industry are of no small proportion and much harm has been done by the production of cheap products which not only interfered with, but jeopardized the comfort, safety and well being of the people, as well as the honest and well meaning manufacturers.

Better Product and Better Installation.

Now, the crying need is for a better product and better installation. The past has brought forth an avalanche of condemnation to the industry and we may be exceedingly grateful for the great awakening that has come in the principles in this industry, for the untiring effort in the promotion of a higher integrity by those who have labored in that direction. Within the past few years very commendable steps have been taken to become properly informed even at this late day to guide us into a better understanding along scientific lines. One of the greatest problems for the health and comfort of humanity is the heating and ventilating of the home, in which the human race spends the greatest part of its time.

The warm air question of heating has been more neglected than any other phase of home building. The time is at hand when it shall receive the most careful scrutiny of the home builder. This is evident in the fact that the universities of this nation have taken an active interest in the effort made by the research work conducted by the National Heating and Ventilation Association and they have also interested themselves in the building of better homes. Those who have an interest in the safe guarding of the health of the nation are demanding more scientific conditions on the subject of health.

Educational Propaganda.

Thus we find that the problems which have come to our attention of late are most serious and the sober attention of the manufacturer of the warm air heating industry, is required. The much neglected work of educational propaganda must now be taken up in an active way, in order that the public may be truthfully and earnestly advised as to the merits of warm air heating.

Community of Interests.

Thus our relations are interwoven so

intricately that there can be no separation between the manufacturer, retailer and the consumer. Each of these must perform an honest service; each must have honest intentions and their aims and purposes must be free from unscrupulous advantages and their integrity must be of the highest, each of them must be alike for a standard that will establish the greatest good for all concerned.

The Industry Has Made Much Progress.

The present industry has accomplished by leaps and bounds a better trade condition and it will mark the progress along the lines which I have outlined and the day of the cheap unscrupulous builder and merchandise agent who has nothing but the immediate present and his selfish gain will pass out of existence as a suicide, by his own acts brings sure destruction to himself. If it were not for the unscrupulousness of the nimble tongue of the evil promotion agent we would progress much more rapidly.

I trust, therefore, that all of us will strive earnestly toward the end that we shall lead this industry in the highest realm of usefulness by rendering honest service all along the line.

This, my friends, is the standard of trade relations to which we should aspire.

Everyone in attendance at the sessions of the Western Warm Air Furnace and Supply Association received full value for the time spent—not only in instruction, but in friendships renewed and strengthened.

The next meeting place of the Western Warm Air Furnace and Supply Association will probably be Chicago, and the date is likely to be some time in December. Both place and date of meeting are left to the decision of the President and Board of Directors.

Gilt Edge-ings Is Changed to Newspaper Form.

In pursuance of its policy to aid its dealers in every reasonable way to increase their sales, R. J. Schwab and Sons Company, Milwaukee, Wisconsin, has changed its little magazine known as "Gilt Edge-ings" to newspaper form.

The first number of the new form, dated April-May, 1922, is replete with advertising helps and selling suggestions to dealers in Gilt-Edge warm air heaters.

One of the interesting items in this number is the offer of a series of cash prizes for the best letters telling of Gilt Edge furnaces in use a long time.

The Gilt Edge advertising department is preparing literature and

advertising display matter to be furnished Gilt Edge dealers for the purpose of featuring and advertising this prize letter-writing contest, which closes June 30th.

Announces Turton Heating System to the Trade.

An entirely new design of a warm-air heating system will be ready for the public in a very short time. A double page illustrated ad will appear in the next issue of AMERICAN ARTISAN AND HARDWARE RECORD. Don't miss it as we believe it will contain many



The Furnace with the Fins.

points of interest to dealers and heating men.

The new construction will be known as the Turton Heating System, or The Furnace With the Fins. The latter phrase has been arranged into a copyrighted design to be used as a trade-mark.

The Turton Heating System was designed by George W. Turton, who has been very active in warm-air heating developments during the past ten years, more especially in the new science—Pipeless Heating. He has devoted years to study, testing and experimenting with pipeless installations, and has collected more data and made more successful installations, perhaps, than any other man since the invention of the pipeless method.

Long ago he was convinced, and

advised several manufacturers, that they were not constructing warm air heaters so that they could function to the best advantage in harmony with nature's laws governing them; and that this improper construction was causing unnecessary inconvenience, unnecessary fuel consumption, and unnecessary general deficient results.

With but a few exceptions, pipeless heaters of today are practically the same design as the original. The general tendency has been to see how cheaply they could be constructed. Whether that was good logic or operated to the benefit of manufacturer and dealer, we shall not discuss in this article.

Mr. Turton takes the opposite view, and has designed a heating system with radical changes from common practice, yet he is prepared to show that every feature embodied will operate with the least resistance to governing laws. He has not attempted to see how cheaply he could construct a heater, but has endeavored to make as many labor-saving improvements as possible, and to see just how well it could be made in quality, service, and efficiency, believing that to be the foundation of economy.

The Turton Heating System is constructed of all cast iron and the designer claims fifteen points of improvement and superiority over the usual construction. It is built to be installed as either a pipe or pipeless system with no changes whatever except in the casing.

Sufficient evaporation of water to produce about 50 degrees relative humidity is now pretty generally recognized as necessary for good health and comfort. Mr. Turton says his heating system will evaporate a gallon per hour with the usual winter fire. Humidifier is adjustable to any amount desired.

Another departure from usual practice is the desire to have dealer agencies limited to one to a county and this one to be thoroughly competent to make either pipe or pipeless installations. Expert assistance on pipeless will be given whenever necessary.

Mr. Turton says it is possible to prevent good results from the best heater made, by improper installation; but that The Furnace With the Fins, correctly installed, is a powerful, internal combustion, air-cooled, super-heating machine. It will be built and marketed by the Turton Furnace Company, division of the Enterprise Foundry Company, at Belleville, Illinois.

Showing Goods Is Necessary to Selling Them.

A large department store has made a study of the relative importance of sight, sound, smell, touch, and taste, in the completion of a sale.

It found that 87 per cent of sales are made by the attraction of sight—goods on display in the windows, on counters, in show cases, and those to which attention is called by demonstrations.

Seven per cent of all sales are made by the attraction of sound, 3.5 per cent by the attraction of smell, 1.5 per cent by the attraction of touch, and 1 per cent by the attraction of taste.

These figures demonstrate clearly that considerable attention should be concentrated on the arrangement of attractive displays, advertising and the like, including the instruction of employees in the best way of showing goods.

Advertising Standardizes Goods and Maintains Quality.

When the manufacturer begins to advertise, he exploits certain definite goods of uniform and standard quality, says L. D. H. Weld in *Printers' Ink*. Instead of having his factory struggle with hundreds of different orders, no two of which are exactly alike, it becomes possible to have his factory work continuously on certain definite qualities or styles, which can be turned out in large quantities.

The advantages both to the manufacturer and to the consuming public are obvious.

The standardization of quality in itself is a benefit to consumers.

The buyer of an advertised article knows what he is getting; he can be sure that it is as nearly like his previous purchase of the same brand as it is humanly possible to make it.

Through the purchase of advertised articles of standard quality, the consumer's judgment and taste are developed.

He has standards to go by, and he is more discriminating in his selection.

But standardization is only one feature of the effect of advertising on quality. It is not necessary to argue that advertising has raised the quality of goods all along the line—not only of the advertised commodity, but also of the unadvertised.

There may be, and undoubtedly are, unadvertised goods that are equal in quality to the advertised brands; but the chances are that the high standard of quality of such unadvertised articles has been attained in an effort to reach or to surpass the standard set by the advertised articles.

Furthermore, the consumer takes a chance in buying the unadvertised article, and even if it turns out to be of superior quality, relatively few consumers make the discovery.

Dealer Should Pay Himself a Salary and Live Within It.

To insure accurate cost-accounting, the dealer should pay himself an adequate salary and limit his living expense to this amount.

Any other way of drawing money from his business is illogical and misleading.

The fact that this is not generally done leads to much confusion.

Many retailers do not even make a debit entry of the goods they and their families take from their own store; and it is the rarest thing to find a retailer settling his account with cash in the same way that he requires the other employees of his business to settle for their purchases.

A good deal of white paper helps people to notice an idea.

Practical Helps and Patterns for the Tinsmith.

Aids to the Improvement of Craftsmanship and Business.
News from Various Branches of the Sheet Metal Trade.

BLAZING FLANGES AND COPPER PIPES.

By O. W. Kothe, Principal, St. Louis Technical Institute, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

About the next feature of interest to the coppersmith is to make flanges and braze them on pipes.

edges worked over further into a right angle position by means of a stretching hammer as at E.

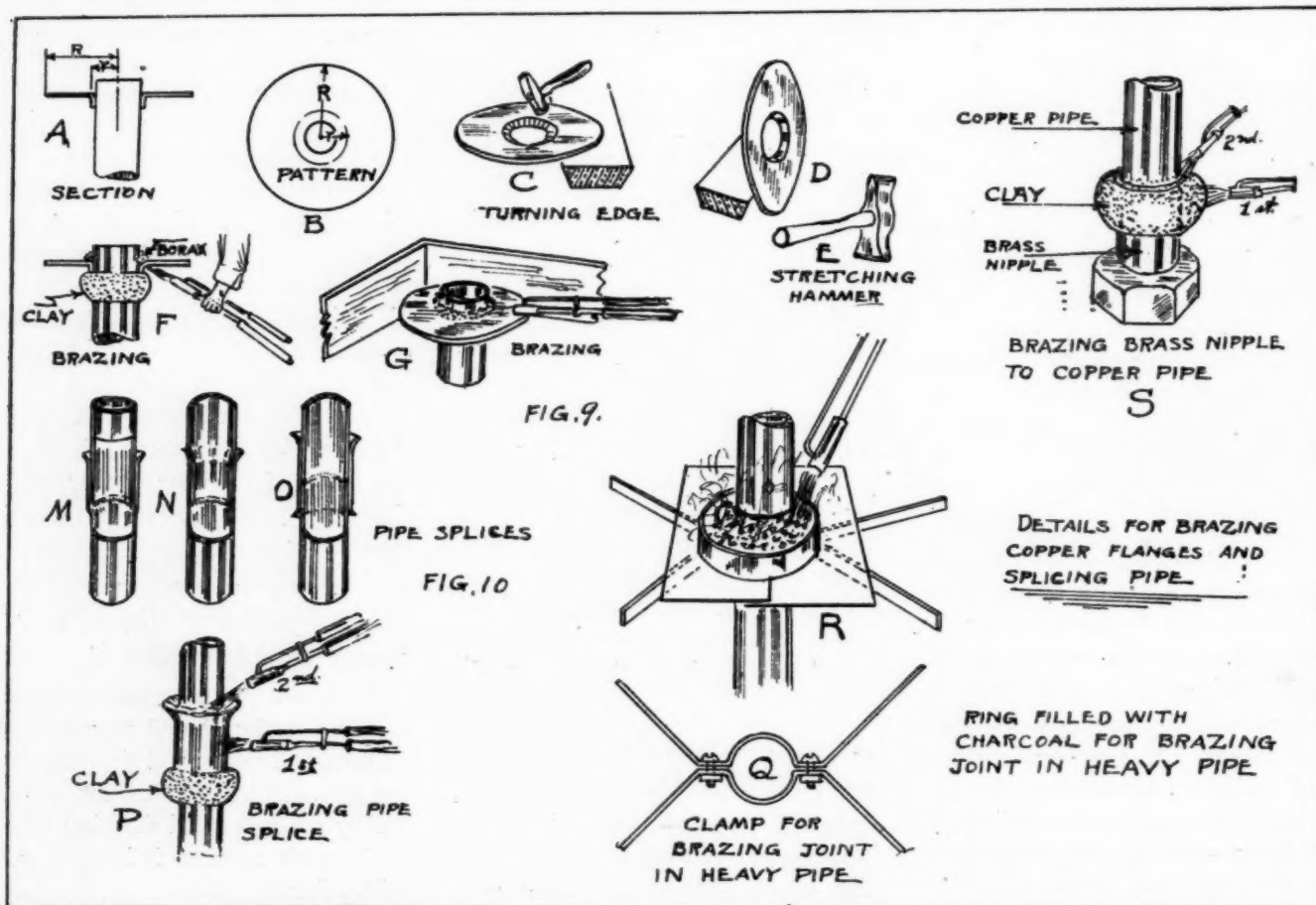
This prepares the flange for brazing to the pipe and, of course, the workman must see that it is perfectly true and round.

In brazing to prevent the spelter and borax from running through, a bed of clay is wrapped around the lower edge as in sketch F.

In that case, by placing 2 boards as in sketch G Figure 9, the flame will be more confined to the spot desired and will braze more easily.

Observe the boards placed in a right angle position cause the heat waves to rebound, and in that way, prevent cold air currents from tempering with the blazing.

Another piece of work that is of interest and of common occurrence



Brazing Flanges and Copper Pipes.

At A of figure 9 we show a sectional drawing of how the flange fits to the pipe and the radius represented by R and r for describing the pattern B.

The turn down flange must be allowed on the inside of the small diameter indicated by r.

About the first step to start flanging is shown by sketch C, where with a flanging hammer the edges work down, then as at D the

A torch is set on the bottom and the clay is heated with the flange from the bottom side, and when this is thoroughly hot the torch is blown over the top, so as to insure a good flow of spelter into the joint.

Sometimes the gas torch is not large enough, or the weather conditions do not work in harmony, and it makes it difficult to braze a flange.

to the coppersmith is making pipe splices.

This can be done in a number of ways, as some prefer to stretch the outer pipe and insert the pipe in the offset as in sketch M.

Other workmen prefer to draw in the pipe to go on the inside and stretch the outside a trifle, as at M.

Still other workmen prefer to place a coupling around both sides as in sketch O, Figure 10.

This latter is no doubt the best, although there is no objection to the other ones when properly worked.

A flange is bent out of the top of either of these methods to form a ledge for placing the borax and spelter and enabling a better flow into the seam.

At times where the spelter flows away, it is best to place a small ledge of clay as in sketch P.

Then with a torch first heat the lower portion as in the first position and after that shift it to the upper ledge and heat the borax and spelter and cause a flow.

Where pipe is quite heavy, it takes an intense heat to heat the metal and braze the joints, but it is easier to do that than on lighter metal, since a person is not so apt to burn a hole.

However, where large pipes of heavy construction are met with, then often an auxiliary heater as at R may be arranged.

A pipe clamp as at Q is made and on which flat plates are placed.

Over this a ring is set and is filled with charcoal.

The charcoal is helped along by means of the torch so that by means of the charcoal and the torch, a flow of spelter and a well brazed joint are secured.

All this requires considerable more looking after and attention than a person can tell in words.

It takes real experience and several mistakes to enter before a person can appreciate the necessity of careful and sure workmanship.

The matter of brazing brass nipples to copper pipes, is not an easy task, since the brass nipples often melt as easily as the spelter does.

To overcome this, the brass nipple part is covered with clay as shown in sketch S.

This clay sort of protects the brass on the lower side.

A torch is first placed in position 1 to heat the clay and the pipe, after which the torch is shifted to position 2 and the edges brazed, causing the spelter to flow.

Even though the top edge of the nipples becomes burnt, enough will adhere to the copper pipes, and as the spelter flows in the joint, a secure seam will be made.

But if the nipple is to be placed on the inside of the copper pipe, as is generally the case, then a little more difficulty may be met with in placing the clay.

Sometimes, it is necessary to fill the inside of nipple with clay as well as work it around above the ledge of copper pipe.

Otherwise, the treatment here shown may be applied.

Where brazed with the forge, then, extreme care must be taken in order not to melt the brass nipple, since the bottom of the pipe will become heated before the top, and in such cases it is often well to play the torch flame on top of the pipe.

This will average up the heat and cause the spelter to flow from the top downward.

At best, it is a ticklish job and requires some experience to know the color just before the spelter begins to flow, in order to prevent melting.

Annual Meeting of the Indiana Sheet Metal Contractors' Association Is Big Success.

Deep Interest Is Taken by Members Who Attend the Sessions and Exchange Plans for Trade Betterment.

ADJUSTMENTS of bitter strifes between employers and employees in the sheet metal trade of Indiana is the accomplishment brought about by the Sheet Metal Contractors' Association of Indiana, whose third annual meeting was held May 15th in Hotel Severin, Indianapolis, Indiana.

This was briefly indicated in the annual address of President Joseph C. Gardner, which is herewith reproduced:

Report of President Joseph C. Gardner.

After another busy year, we are assembled to transact the business of the association. According to our constitution and by-laws the annual state convention should have been held last February, but on account of the National Association meeting in this city this month, it was decided by your officers and directors to have only a business session the Monday previous to the meeting of the National Association, so that the members could attend both meetings while in the city.

Labor Troubles Have Been Adjusted.

At the time of last year's convention nearly every member of our organization had labor troubles ahead of them and before the difficulty was settled there were several bitter strifes between employers and employees, but after several weeks of idleness in various localities the trouble was finally adjusted by each party granting concessions.

So far this year labor troubles have occurred in only a few cities of the United States, and we expect harmony and peace between employers and employees during the present year.

Care in Estimating Work.

As our National President, Arthur P.

Lamneck, well said, the building trade was the first to recover from the slump of the past year, which was surely a year of trials and losses for a great many of us. But from present indications we have a very prosperous business year before us and if we are careful in estimating on work and giving credit, the



Joseph C. Gardner, Re-elected President.

year should show on our ledgers a larger margin of gain than that of 1921.

Composition Roofing.

A hard proposition for the sheet metal contractors to cope against is composition roofing, for nearly everywhere you look you see composition roofing on buildings and in a great many cases the same material is even used for guttering in place of sheet metal.

Apprentice System.

The apprentice system is another very complex proposition and we are no nearer a solution than we were a year ago; it seems the only solution will be vocational training schools and it behooves every sheet metal contractor to place his shoulder against the wheel and help boost the excellent proposition.

At a meeting of your officers and directors held at Lafayette, Indiana, it was unanimously decided to request each member to pay an extra assessment of \$2.50 for the past year as the treasury was nearly depleted, and I wish to thank the members for their hearty cooperation and promptness in responding.

Efforts were made either through the mail or by visits to secure new members for our organization, and your president is greatly disappointed that the gain



Charles L. Gatz, Second Vice-President.

was so slight during the year. Generally only promises were received. However, there were a few exceptions and I point with pride to Marion, Indiana, where 100 per cent of the local sheet metal contractors joined.

Compensation for Secretary.

There are two important items that should receive very careful consideration, first that the secretary receive compensation in proportion with the work required of him, second that the yearly dues be increased so that your officers may have enough funds to properly carry on the functions of the association.

As you are looking forward to having instructive meetings and enjoyable times during the next few days at the National Convention and Exposition, I hope your anticipations may be realized, as every effort was made by committees to have the great undertaking one grand success.

We have the various committees to thank for the arrangements of the coming National Convention and Exposition, for the program; Mr. Ralph R. Reeder; for the arrangement of the exhibit display, Mr. Joseph E. Mattingly; but we must not overlook the mainstay or warhorse of the convention and exposition, Mr. E. W. Norman. For him too much cannot be said, as he was on the job day and night, even attending various state conventions, boosting "No Mean City" Convention and Exposition wherever possible; a letter should be sent to

his employers, Merchant and Evans Company, thanking them for granting Mr. Norman the privilege of helping arrange the events.

Gives Thanks for Assistance.

As reports of the secretary, treasurer and various committees appointed at last year's convention will be submitted to you, I will close my address, but before doing so I desire to thank each and every one for their assistance during the past year.

Owing to the fact that the National Association of Sheet Metal Contractors' Annual Convention was held the same week in Indianapolis, the sessions of the State Association were purposely curtailed in order that the members might have more time to receive and entertain visiting delegates to the National Convention.

The officers elected to administer the affairs of the Sheet Metal Contractors' Association of Indiana for the ensuing term are as follows:

President: JOSEPH C. GARDNER, Indianapolis, re-elected;

First Vice-President: A. W. DUDLEY, Terre Haute, re-elected;

Second Vice-President: CHARLES GATZ, Gary, re-elected.

Secretary: LESLIE BEACH, Richmond;

Treasurer: J. D. ORTMEYER, Evansville.

Directors: A. P. SCHMITT, Evansville; C. R. OBERHOLTZER, Angola; W. F. STOCKFORD, South Bend; JON C. KREIDT, Fort Wayne; and JOHN BALKEMA, Lafayette.

The next convention of the Sheet Metal Contractors' Association of Indiana will be held in February, 1923, at Terre Haute, Indiana.

Speco Spokesman Makes Its Appearance.

With a timeliness which is characteristic of its whole range of service, the Special Chemicals Company, Highland Park, Illinois, has just published a little four-page paper, called "The Speco Spokesman."

The purpose of this publication is to acquaint the craftsman with the latest improvements in the science of soldering and to suggest opportunities of trade development along this line.

The first number of "The Speco

Spokesman" points out in a general way work which chemistry is doing for soldering and declares that as chemists get in closer and closer touch with the practical men they are going to do more and more for the improvement of soldering.

Of special timeliness is the little article in this first number of "The



Speco Radio Soldering Outfit Contains Special Chemicals and Tools, With Complete Directions for Radio Soldering.

Speco Spokesman" on Speco Radio Soldering. Brief instructions are given for this class of soldering.

A highly instructive article written in plain language by the noted chemist and president of the Special Chemicals Company, Carl Pfanstiehl, tells just what happens in soldering from a chemical and physical point of view.

This explanation is worth hundreds of dollars to any sheet metal worker who wishes to become proficient in his trade.

Take an Active Interest in Your Community.

What do you contribute to your community that will help to make it a desirable place in which to live?

To what extent do you help to make and keep it clean, tidy and attractive and do you cooperate with your neighbors in every movement that has for its purpose, the betterment of neighborhood conditions?

Get in touch with the spirit of the times and do your part in making your community a better place to live in this year than it was last.

Convention of National Association of Sheet Metal Contractors Approves the Warm Air Furnace Code.

Instructive Addresses on Matters of First Importance to the Trade Make the Annual Meeting of Great Value to the Delegates.

COMING from every part of the United States and from several provinces of Canada, the delegates and visitors to the eighteenth annual convention of the National Association of Sheet Metal Contractors, held May 16, 17, 18, and 19, 1922, in Hotel Severin, Indianapolis, Indiana, were truly rep-

Then the following committees were appointed for the work of the Convention:

Resolutions—R. E. Pauley, Mason City, Iowa; W. J. Keist, Pittsburgh, Pennsylvania; H. A. Daniel, Newburgh, New York; Charles E. Coberth, Washington, D. C.; Otto E. Scheske, St. Louis, Missouri.

gence in Government. He is a barometer of prosperity and the cornerstone of industry.

The business man, however, as a general rule, has not measured up to his responsibility nor accepted the opportunities offered to him by reason of his position in society. He has to a greater or less extent been a very selfish individual, living only in the realm of his own particular business and getting what he considered belonged to him while the getting was good. He has not at all times



John A. Pierpont, Newly Elected President.



R. J. Braley, Honorary Member for Life.

representative of the best thought and craftsmanship of the great sheet metal industry.

Tuesday, May 16, 1922.

The Convention was called to order by Joseph C. Garner, President of the Sheet Metal Contractors' Association of Indiana, who asked the assembly to arise and join in the singing of the national anthem, "America."

After an address of welcome by the Reverend Mr. Rainer, to which appropriate response was made by the National President A. P. Lamneck, presentation of a tinner's mallet was made to the National President.

Auditing (Journal)—W. G. Huettner, Gary, Indiana; Art Smith, Dayton, Ohio; George E. Snyder, Columbus, Ohio.

Auditing (Secretary's and Treasurer's Reports)—Frank T. Reuter, Kankakee, Illinois; A. P. Schmidt, Evansville, Indiana; John Pohl, Lancaster, Pennsylvania.

Tuesday afternoon's session began with an address by Judge Charles J. Orbison of Indianapolis, on "Business Man's Opportunity," the main features of which are as follows:

Extracts from Address by Judge Charles J. Orbison.

The business man is the sheet anchor of stability, conservatism and intelli-

been interested in the general conditions of business nor in matters of National concern, which should have occupied some of his attention. He has been quite provincial and has permitted other classes to outstrip him in the performance of quasi-public and public enterprises.

Conditions of Prosperity.

Prosperity will come to the individual business man as prosperity visits industry generally and a real prosperity for industry generally depends upon the safe, sane and economic administration of the affairs of Government.

Price-Cutting Is Harmful.

To excel in the character of the product—to make the business house more attractive, to appeal to the aesthetic taste of the public—these are laudable ambitions on the part of the producer or salesman and competition is a spur for the business man doing his best. But when he proceeds to cut the prices of his merchandise or wares below the point where a legitimate profit can be made in

order to destroy his competitor, he is a charlatan and not a legitimate business man.

Co-operation Creates Confidence.

The business man can learn a lesson from organized labor. It proceeds upon the theory of the greatest good for the greatest number. You can not organize to regulate and control prices. But the business man can organize for the purpose of co-operating in creating higher business standards, in preventing the causes for business depression, and in establishing and building safer credit systems. Co-operation creates a better understanding among all business and creates confidence which is the basic stone of business prosperity.

Honest Advertising.

Advertising methods are the business arteries in the world of trade. But every questionable and dishonest artifice in advertising is a cord tied around the artery stopping the flow of trade. Truth in the written word is as necessary as truth in the spoken word. The business man should, therefore, be an exponent of the truth in advertising movement and he should be an active factor in its development.

Pessimism Produces Nothing.

Business also needs to come out of the cellar and business men should watch the sunrise of a new day. Pessimism never built a city or started a wheel. Diogenes never found an honest man although the world was full of them. Business needs less anchors and more sails. It must have faith—faith in our boundless resources, faith in the stability of the government, faith in the needs and demands of our own teeming millions and needs and demands of the world around.

Patriotism Essential to Business.

Finally, the business man should be the greatest patriot of the ages. His own selfish interests, his hopes to carry on for prosperity, his interest in his fellows—all combine to make it necessary for him to give the best that is in him to conserve our institutions, to preserve our flag, and to protect our government from the enemies that are within our borders. He must be a student of the problems of unrest. He must be an active stock holder in the greatest corporation on earth by voting when the opportunity offers. He must stand for the enforcement of law.

And so, business men, gird on your armor, and in truth, faith and courage, accept the opportunity that is offered you for service.

At the conclusion of Judge Orison's speech, National President, A. P. Lamneck, delivered his annual address to the convention, in which he gave a comprehensive and encouraging review of the trade in general.

The full text of his address is herewith reproduced:

Report of President A. P. Lamneck.

Our Association has passed another milestone in its history, and we can safely say that the year just closed has been a satisfactory one for our organization. Our reports will no doubt show membership increases, but our real growth has been in the fact that our membership has

begun to realize that as an Association we are able to give to our members something of real value.

Visitation.

Your President has done considerable traveling this year in the interests of our craft. Visits were made to St. Louis, Mo., Jackson, Mich., Reading, Pa., Washington, D. C., Milwaukee, Wis., Springfield, Ohio, and other cities, and at each place, in my humble way, I tried to spread Association gospel. The above visits, together with the system of various locals visiting each other, has done a great deal of good and should be continued as much as possible for the ensuing year.

Mr. J. H. Hussie, George Harms and myself went to Jackson, Mich., for the purpose of getting the Michigan State Association to join the National Association. We were not successful in our mission, but I sincerely believe the Michigan boys are ready and willing to join after proper arrangements can be made,



A. P. Lamneck, Retiring President.

and I feel that our time and efforts were well spent, and will show results in due time. Every effort should be made to get the Michigan boys in this year.

Suggestions.

After three years' service as your President, I find quite a few discouraging things which we should strive to eliminate. I will enumerate a few of the things I mean:

- (1) Our membership is not half what it should be.
- (2) We do not have a consistent plan of increasing our membership.
- (3) We do comparatively nothing for our individual members, and those locals which lack leadership.
- (4) We lack a method of convincing members of the value of association work.

I suggest a few remedies which we might adopt. If these are impracticable or inadvisable, we could use others.

- (1) We should have a professional organizer or some system whereby the organization work could and would be taken care of by State Associations.
- (2) This work should be separate, and apart from the work done by the Secretary and Editor of the Journal.
- (3) We should write all liability and fire insurance for our members. Same

should be placed in mutual companies. This would save all our members from 30% to 40% in their premiums, and at the same time would give us revenue to do other work with.

(4) A program of work should be outlined for our locals and some one should see that it is carried out. There are other things that we could do, but I only mention the above to give you my idea.

Opportunity for More Business.

I want to call the attention of all the Roofing Contractors to the new copper roofing which the Anaconda Copper Co. is exhibiting here for the first time. If this roofing is what is claimed for it, and the price is not prohibitive, it will mean a great volume of business for the Roofing Contractors, and I urge all present to investigate it thoroughly before the Convention is over, so that you may be posted on its merits when you leave here.

Furnace Code.

The Furnace Committee at this Convention will report on the Furnace Code that was adopted at Cleveland, by the National Warm Air Heating & Ventilating Association. We also will no doubt adopt it and after this is done, it will be of no use unless we devise some means of compelling its use. I consider this code, if used, one of the greatest steps for progress that the furnace industry have ever made.

Business Outlook.

I am happy to say that business conditions in our industry have improved greatly since our last convention. According to the best information, we have passed through about fifty per cent of our readjustment, and the balance will be spread over a period of about twenty-five years.

Past history shows that after every great war, a period of twenty-five years usually followed in which there was a constantly declining market, and since the first two years shows a fifty per cent readjustment on commodities, we should have a very small change from year to year over the balance. This condition should assure us on buying, and we should not hesitate to buy any sheet metal supplies for our needs at least six months in advance.

Legislation.

The Furnace Code, which you will hear a great deal of before the convention is over, is, as I said before, one of the most progressive steps taken in the furnace business in its history. Let us take advantage of this document and see what we realize on this investment to the fullest. The Legislative Committee or a special committee appointed for that purpose, should see to it that this code, or a modified form of it, to meet local conditions, should be presented to the legislative branch of every city or town where there is any regulation on home construction, and every effort made to have the code adopted as a part of the building laws. When this is done it will do more to elevate the furnace business than anything that can be done otherwise. I hope that all members here will realize the importance of this work and assist in every possible way to accomplish the things we are striving for.

A Sign of the Times.

I feel it my duty to call to the attention of the Sheet Metal contractors of the United States the tendency of furnace manufacturers to establish retail selling branches in all large centers of

population. Most manufacturers are naturally inclined to do business with legitimate dealers, but because of the policy of their competitors, are compelled, as they see it, to install direct. Why is this condition developing? Because the furnace dealer is not aggressive enough. He has no set policy of selling or installing. He simply drifts along and takes things as they come. What can be done to offset this?

(1) Specialize on the furnace business or quit it entirely.

(2) Use same aggressive methods of selling that the manufacturers are using.

(3) Adopt a credit plan so that you can give credit to a purchaser if necessary.

(4) Never install a furnace that will not give satisfactory service.

(5) No matter what it costs, always retain the good will of the purchaser.

If the above is followed, no manufacturer can come to your city and take this business from you.

If you do not work out some system to offset the methods of manufacturers, there will be very little business left for the dealer in the large cities.

I want to thank the trade press, all the officers and members of the association who assisted in any way to make my administration a success. I want to thank the committee members and particularly the chairmen for their efficient and loyal work.

The Indiana Auxiliary, particularly E. W. Norman, Chairman, the Indianapolis Local; J. E. Mattingly, director of Exhibits in charge of the Model Sheet Metal Shop; and J. B. Gardner, President of Indianapolis Local, and their co-workers, deserve the most sincere thanks for their part in this work, and we shall ever remember them for making this the greatest convention we have ever had.

The report of the National Treasurer, Julius Gerock, disclosed a satisfactory condition of the financial affairs of the Association.

That the National Association of Sheet Metal Contractors has reached a point in numbers, influence and activity where it can be truly said that it represents one of the greatest industries of our country, was the reassuring conclusion reached by Secretary Edwin L. Seabrook in his annual report to the Convention, a synopsis of which is herewith given:

Synopsis of Report of Secretary Edwin L. Seabrook.

The year just closed can be counted for our Association a success in every respect. It began with what may truly be termed a great convention in Pittsburgh. The enthusiasm and the work planned there have been maintained throughout the year. Business has not been good during the past months and industrial depressions have their effect on trade organizations and their activities. Despite the industrial depression during the past eleven months, our Association has made commendable progress in every department of its work. Its membership has increased and while there have naturally been losses, due

largely to business conditions, the gains have far exceeded these losses. Compared with the membership standing of many other trade organizations during these times, the membership may well congratulate itself in being able to show a substantial increase rather than a decrease.

Finances in Good Condition.

The finances of the Association have also kept pace with its membership increase, its receipts are larger, and while it has expended more money than last year, its net assets show a good increase. In making comparisons with last year it must be borne in mind that the figures for this year are for the eleven months only. Ordinarily the fiscal year closes May 1st, but on account of this convention being held one month earlier it was necessary to close our books on the last day of April.

New State Associations.

During the year four State Associations were organized. These are North



Edwin L. Seabrook, Re-elected Secretary.

Carolina, New Jersey, New York, Oklahoma. All the work of securing the sentiment of the trade in these states regarding organizing, arousing interest in the movement and calling the convention to form the State Association was done from National headquarters. I attended the organizing conventions in North Carolina, New York and New Jersey. Owing to the distance from Philadelphia, John R. Hussie, of Omaha, was delegated to represent the National Association and assist in organizing the Oklahoma State Association at Oklahoma City. The suggestion for organizing Oklahoma came from W. A. Conkling, secretary of the Tulsa local.

Visitation.

The plan of local visitation inaugurated at the Peoria convention in 1920 was most successfully carried out during the year. These visitations were arranged by National headquarters and visitations were changed from last year. In some instances it has been possible to enlarge these visitations by including more than two locals and hold what may be termed a district conference. Two of these were held during the winter, one at Peoria and the other at Springfield, Ill. It is hoped that within the next year or two these district meetings may

be enlarged in numbers and scope and become a permanent feature.

Salesmen's Auxiliaries.

The Salesmen's Auxiliaries connected with the various state associations deserve much commendation for their activities. These Auxiliaries are becoming permanent features of the State Associations and are bound to increase in influence and numbers. During the year Auxiliaries have been organized in Ohio, Pennsylvania and New England. Unquestionably the meeting in a fraternal spirit of sheet metal contractor and salesman is bound to solve one of the trade practices that have irritated in the past.

General Condition.

From the foregoing it must be apparent that the general condition of the National Association, which, of course, includes the local and state associations, is excellent. It has reached a point in numbers, influence and activity where it can be truly said that it represents one of the great industries of our country. The outlook for the future is most encouraging. The membership is united, harmonious and more active than ever.

I wish to express my appreciation for the assistance given by our National President, Arthur P. Lammack, the other officers and directors, state and local secretaries, together with many of the members. Space forbids making special mention of a long list of those who have assisted and encouraged during the year.

Seventeen Years of Progress.

Thus closes the seventeenth year of the National Association. Sixteen years ago it met in this city. Then a few locals, not a single state association, scattered membership, a hand full of delegates and some exhibits in private hotel rooms. Compare this with what you see here today: scores of locals, fourteen state associations, a nation-wide membership, an exhibition of sheet metal products covering an acre of space. In this you have the answer of the sturdy progress in the seventeen years and the incentive for the future.

Tuesday evening at 8:00 o'clock the delegates and visitors attended the Exhibitors' Frolic by the Indiana Jobbers' and Salesmen's Auxiliary at Exhibit Hall in the Cadle Auditorium, corner Ohio and New Jersey Streets.

Wednesday, May 17, 1922.

The report of the committee on "Trade Relations and Policy," was read at the opening of Wednesday morning's session by the chairman of that committee, Edwin L. Seabrook, a synopsis of which is herewith printed:

Synopsis of Report Trade Relations and Policy Committee.

From the information that comes to your committee there appears to be plenty of direct selling to the consumer in the sheet metal industry by some sources of supplies. In making this statement your committee does not mean to include certain supplies that are necessary in the manufacture of articles, or where sheet metal mechanics are contin-

uously employed by such consumer, but those sales which are made direct to the consumer and which ought to pass through the sheet metal contractor.

Opposed to Direct Selling to Consumer.

There has been more agitation on this subject by our membership than in previous years. This may be due to the fact that the membership is increasing, state associations organized and state gatherings held, all of which have given the membership a greater opportunity for exchange of views and expression of opinion on this important subject.

However just our case may be from the ethics of business and square treatment, the law is entirely on the side of the source of supplies when it comes to making very much of a fuss about it. Individually you can do as you please, but you can not collectively agree to do what you know every one believes he ought to do or be willing to do.

Better Understanding Is Coming.

While direct sales may still be made there may be just cause for complaint, there are several conditions that are favorable to the sheet metal contractor. In the first place the membership is increasing, state associations are being organized, and this brings together in the state conventions a large number of members, salesmen and representatives of manufacturers. This gives an opportunity for a very frank expression on the part of the sheet metal contractor, the salesmen can catch the collective viewpoint and carry it back to his house. It makes a great deal of difference whether the individual protests as such, or whether it is done collectively and numerously through the state conventions.

Influence of Salesmen's Auxiliary.

Second: The organization of the Salesmen's Auxiliary in nearly every state has brought the customer and salesman closer together. The salesmen being organized can help immeasurably in eliminating many, if not nearly all, of some practices which have irritated the customer. A good co-operative feeling among the salesmen is just as essential as it is among the sheet metal contractors. Undoubtedly the contractors' association and that of the salesmen's auxiliary working together harmoniously will solve many of these vexing problems and questions.

Third: The sheet metal contractor needs to be awake, if he is not already, to the fact that he must do something more than complain about these bad practices. No doubt there are many instances where his complaints are just and that he could have done but little to prevent direct sales. On the other hand, there are undoubtedly scores of instances where direct sales have been made because of absolute indifference on the part of the local dealer. There is a particular furnace manufacturing company advertising nationally, that is willing to be generous to the sheet metal contractor, whether a regular customer or not, who will see a prospective customer answering its ad when the name is sent to him. The experience of some representatives of that company is that some dealers have been absolutely indifferent and paid no attention to the leads sent them and it has been necessary for the representative himself to call upon the prospective customer answering the ad and to make the sale himself. These are not scattering instances—they are numerous. You can imagine the reasoning of this furnace

manufacturer—and all other manufacturers doing likewise—who hears complaints about direct sales and places alongside of these complaints his own experience with indifferent dealers.

Dealer Must Do His Part.

Your committee for several years has emphasized that the dealer has something to do in the matter of trade protection. The committee wishes to reiterate that emphasis with added strength, if a manufacturer or jobber comes into a territory for direct business it shows almost beyond a doubt that business is there or he would not waste the time and effort going after it. It costs the jobber a great deal more to go after it than it does the local dealer who is on the ground and ought to be alert enough to know what is going on in his locality and have business ingenuity enough to get there ahead of the jobber.

If a jobbing house a hundred or two hundred miles away from any commu-



Frank B. Higgins, Re-elected First Vice-President.

nity can send its representative to such a place and secure business, what has the local dealer been doing all the time? Perhaps the orders go by mail to the jobber, but even so the local dealer has the advantages of being on the ground and can find some way in which to present the merits of his case.

Your committee in these statements is making no endeavor to excuse direct sales, but it does want to lay before the sheet metal contractors that they have a responsibility in this matter that can not be shifted to some one else. Business goes to the one who goes after it. Naturally it should reach the consumer through the local dealer and it is squarely up to him to see that this link of the distribution chain is not the weakest.

The report of the Warm Air Furnace Committee was delivered by the Chairman, E. B. Langenberg, who outlined the work accomplished by this Committee in the development of the warm air heater code.

Then came the report of the

Legislative Committee, by its Chairman, John H. Hussie.

The chief paragraphs of his report are as follows:

Report of the Legislative Committee, by Chairman John H. Hussie.

At the Annual Convention held in Pittsburgh, Pa., June 1921, a code for the installation of Warm Air Furnaces was read and adopted, and emphasis was laid on the demand for the examination and licensing of Furnace Installers. The President was requested to appoint a Legislative Committee for the purpose of co-operating with committees from other organizations interested in warm air heating.

Joint Meeting of Committees.

In response to a call issued by Mr. Edward Norris, Chairman of the Legislative Committee of the National Warm Air Heating & Ventilating Association, our committee met in Chicago, with the committees representing the National Heating & Ventilating Association, The American Society of Heating and Ventilating Engineers and the Western Warm Air Furnace & Supply Association.

After a session lasting during the entire day, it was agreed that a sub-committee be formed, consisting of three members of the American Society of Heating & Ventilating Engineers, one from the National Heating & Ventilating Association, one from the Western Warm Air Furnace & Supply Association and one from the National Association of Sheet Metal Contractors.

Personnel of Sub-Committee.

This sub-committee was instructed to meet and endeavor to agree upon a code and to report such code to the General Committee as soon as possible. The personnel of the sub-committee was as follows:

Prof. J. D. Hoffman, Chairman, representing American Society of Heating & Ventilating Engineers.

E. B. Langenberg, Secretary, representing American Society of Heating & Ventilating Engineers.

Jesse McHenry, representing American Society of Heating & Ventilating Engineers.

C. M. Lyman, representing National Warm Air Heating & Ventilating Association.

Geo. Harms, representing Western Warm Air Furnace & Supply Association.

Jno. H. Hussie, representing National Association Sheet Metal Contractors.

The Sub-Committee was also assisted in its work by Professor A. C. Willard, of the University of Illinois.

This sub-committee held three meetings; one in Champaign, Illinois, the second in Chicago and the third in Cleveland, on the day preceding the meeting of the National Warm Air Heating & Ventilating Association, April 18th. Also a large amount of correspondence passed between the members of the committee.

At the first meeting of the joint committee, it developed that the representatives of the American Society of Heating & Ventilating Engineers and the National Warm Air Heating and Ventilating Association would not agree to any clause looking toward the examination or licensing of installers or the enforcement of a code after one was agreed upon.

Rather than see the entire matter dropped, and in the hope that an agreement might be reached, at least upon what might be considered the correct method of furnace installation, your committee agreed to drop, for the moment, the examination feature.

Code of Pittsburgh Convention Discussed.

At the first meeting of the sub-committee, the code adopted at the Pittsburgh Convention, last year, was taken as a basis and read, section by section, certain sections being adopted substantially as read, others amended, and others stricken out entirely.

This draft was further amended and corrected at the Chicago meeting and again at the Cleveland meeting. It was then presented to the joint committee and adopted, as amended, and presented to the National Warm Air Heating & Ventilating Association, in the convention assembled at Cleveland. With slight modifications, it was adopted by this convention and recommended for adoption by the other associations interested.

Step in Right Direction.

Your committee is not proud of this Code. It is not as it would be had your committee alone been concerned with its making, but your committee believes it is at least a step in the right direction and much better than no code at all, and is, it is believed, the best we can get an agreement upon.

Your committee, therefore, recommends its adoption with the reservation that this association goes on record as believing this Code of no value unless some provision is made for its enforcement.

The compromise Code is herewith submitted.

The morning session concluded with discussion of topics presented through the Question Box.

A very thorough explanation of "Fan System for Residence Heating" by F. R. Still, Vice-President American Blower Company, Detroit, Michigan, constituted the opening feature of Wednesday afternoon's session.

Mr. Still's address dwelt to so large an extent upon the working out of the formula that it is deemed advisable to publish it in full in a separate issue of AMERICAN ARTISAN AND HARDWARE RECORD.

After the address of Mr. Still, came the report of the Labor Committee by Chairman W. F. Angermeyer, a digest of which is herewith given:

Digest of Report Labor Committee.

While nothing extraordinary, it such a term may be used, has occurred in the labor situation since our last convention, there are several well-defined tendencies which are worthy of note and are important enough to receive the serious consideration of all employers of labor in the building lines.

Tendencies of Labor Situation.

The first of these is the growing tendency of the courts, both state and Federal, to hold organizations of labor, or their officers, responsible for the acts of each or both. In this connection it should be borne in mind that law develops out of the customs and needs of the people. It is quite natural that the law follows these as they develop and seldom precedes them. It is well to note also that the laws or legal restraints affecting labor organizations are being developed almost entirely through court decisions, or, as labor leaders term it, "judge made law," rather than through legislative enactments.

This is largely due to the fact that members of legislatures are elected and

ciated Contractors of Massachusetts are attempting to solve the difficulty in a very practical way. They have reasoned that if a civilian by intensive training can be made into an efficient fighting soldier in three months, where it used to take nearly as many years, the same principle can be applied in training the youth and young man in the building trades.

The Landis Award.

Two features somewhat out of the ordinary have occurred since our last convention. One of these is the famous Landis Award in Chicago. This has been so well exploited that scarcely any comment is necessary except that the influence of this Award is bound to be far-reaching. The other has not been



E. B. Langenberg, Chairman Warm Air Furnace Committee.

when labor legislation is before them the stop watch is held over them as to how they vote. The result is that the burden of solving labor disputes is by court decisions rather than by laws enacted by legislatures. When a dispute is brought into court it must be settled by it.

Open Conferences.

Another tendency worthy of note is that of the willingness on the part of labor unions to confer over agreements rather than the method of a few years ago, when these were made in secret. When ready the agreement was handed to the employer in printed form with the ultimatum practically of "sign on the dotted line or have a strike." This method is still fresh in the minds of most of us, but is very happily giving way to conferring, or the offer to confer, with employers, before actually compiling an agreement.

New Methods of Apprenticeship.

There is a growing tendency to break away from the century-old long term apprenticeships and shorten the term by intensive training. Building trades employers are face to face with a condition in the supply of mechanics. They realize this as never before. The Asso-

so well advertised and not so well known, but its results will undoubtedly have a big influence for the better. This took place in Washington, D. C., February 25th and is a decree signed and accepted by the officials of three big building trade unions—bricklayers, masons, plasterers—and removes some of the most restrictive rules which have obtained for many years in these big unions. This decree is the result of a four months' search and inquiry on the part of Federal officials and provides:

There is to be no limit to the productive capacity of workmen with the working day, or at any other time.

No limit upon the right of the employers to purchase material wherever, whenever and from whomever they choose, whether union made or otherwise.

No favoritism by organized labor toward employer or trade associations; no discrimination against the independent employer who may or may not be a member of such an organization.

The labor organization is not to be used, or permit itself to be used, by material men, contractors or sub-contractors, as an instrument for the collection of debts or enforcement of all alleged claims.

It takes but a moment's consideration to understand how far-reaching and beneficial is the breaking down of these restrictions.

National Board of Jurisdictional Awards.

Another factor that must not be overlooked is the National Board for Jurisdictional Awards. This Board has headquarters in Washington, has been functioning for two years, and is composed of representatives of the American Institute of Architects, New York Engi-



Julius Gerock, Re-elected Treasurer.

neering Council; Associated General Contractors, National Building Trades Employers' Association and the Building Trades Department of the American Federation of Labor. This Board decides jurisdictional disputes. The Building Trades Department agreed to abide by its decisions and its various branches, except the carpenters and joiners, have done so. Perhaps we have not all agreed with the decisions handed down by the Board, perhaps we may think some of them not quite fair, but we must realize that this is the only organized body to which such disputes may be referred and whose decisions all concerned have agreed to respect. It has beyond any question prevented many strikes which would have brought idleness and loss in production.

Coming to our own industry your committee has gathered some interesting facts and these are up to date. The middle of last March it sent a questionnaire to the different local associations asking if they had an agreement with the union and if the working conditions were a part of the agreement, the wage scale for 1921 and 1922, the proportion of unemployed sheet metal mechanics, and the building situation in that locality.

The replies show that the relation of agreements to non-agreements is two to three; that is, there are fifty per cent more locals operating without agreements than with them. Some of the locals operating without agreements are doing so for the first time in many years.

Suggested Labor Agreements.

In conclusion your committee feels that it can do no better than to repeat some of the suggestions made in its re-

port last year regarding agreements that may be made with labor organizations. It raised the question then as to whether the employer must not insist in having a part in the making of any agreement to which he is a party. In the making of labor agreements several well defined principles ought to be recognized:

First. No sympathetic strikes.

Second. No restriction of production.

Third. The elimination of anything that causes friction or trouble, and can in no way regulate wages or influence production.

Fourth. That a sympathetic strike would immediately abrogate the agreement.

Fifth: Increased number of apprentices, these under the direct control of employers.

Sixth. Local trade autonomy.

Seventh. No boycotting of materials.

The superior advantages of sheet metal for fire protection offer strong selling arguments to the sheet metal contractor for the enlargement of his business.

The subject of fire protection was discussed in the report of the Fire Protection Committee, by its Chairman, John Bogenberger.

The afternoon session concluded with the report of the Trade Development Committee, of which Paul F. Brandstedt is Chairman. The report is substantially as follows:

Digest of Report of Trade Development Committee.

In this the third annual report of your committee we will give you a correct



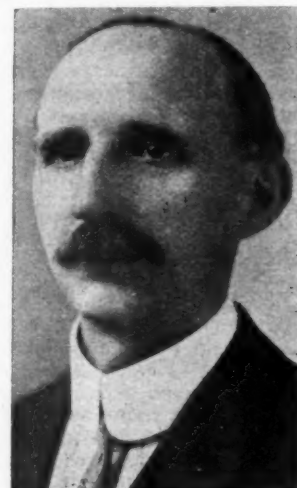
Paul F. Brandstedt, Chairman Trade Development Committee.

account of all activities, progress and expenditures as made to date.

Excellent Samples of Work.

In looking over the samples of work we have to hand you will please observe their clean design from both an architectural as well as a workmanship point of

view. That is our aim, and though we have, perhaps, wasted six months we feel it was better to progress slowly, or better still to make haste slowly, than to be compelled to do work over because of its inferior quality. That was the hardest task involved which we feel has in a measure been solved and to do so required patience and a disregard for persons. The task is too big and too important to permit anything to stand in the way of its ultimate success. Your committee recognizes this and will go straight for the goal as it has been set.



George Harms, Trustee.

Warm Air Furnace Section.

The work of the Warm Air Section is progressing and is in a measure held back by the Code Committee which has come into being since the last convention. The Pittsburgh report stated "a common ground" must be evolved. The Warm Air Furnace Section of our industry is doing this and we feel that here too patience is necessary, for to establish "common ground" will be indeed a great step forward and means the stabilizing of a vast and important branch of our ever growing trade.

A number of drawings have been made in pencil and will be made up in ink as the draftsmen get them. The tables that will be part of the warm air section are awaiting the outcome of the code committee's conferences and actions.

Blower and Exhaust Section.

The Blower and Exhaust work section is nearly completed, thanks to the splendid work of Hugh F. Munro of Philadelphia. If all our problems could be handled as that gentleman has handled his, we would today have a jubilee.

All Drawings on Linen Tracings.

The total number of drawings finished or in process of finishing is about 65. All drawings will be on linen tracings and if in the future prints are desired they can be had at the cost of making and mailing of same.

Failure to Answer Letters.

Your chairman wishes to call attention to an outstanding fault of our general membership: "Failure to answer letters" and "Failure to respond to requests." I mention these points because they are so utterly contrary to the general character of our members, and they exert an influence on the speeding up process. We have received some answers to requests for pictures and details and I wish to mention Gary, Indiana, and St. Louis,

Missouri, as rather prominent, but the vast majority do not answer at all.

Copper and Zinc Interests Are Cooperating.

I here wish to mention the Copper and Zinc interest; both of them through their respective secretaries, Messrs. Eckert and Tuthill, are willingly cooperating with us and there live interest is an inspiration in our work as well as in our daily business.

Lost Opportunities.

I also wish to touch on another phase here in our general character and one that was briefly mentioned by Mr. Thesmacher two years ago. It is that of not being willing to enter into new developments in our business. There are thousands of articles manufactured today

through its very unity and merit compels the favorable consideration by thoughtful men.

Counsels Patience.

In conclusion the chairman wishes to thank all those who have supported the work so far and who are ever ready to do their part in this great undertaking. We also wish to emphasize that in a work of such size patience is an asset.

Wednesday evening a most delightful dance and card party at the Hoosier Athletic Club were given to the visiting delegates and their ladies by the Indianapolis Sheet Metal Contractors' Association.



B. A. Epperson, Director Indiana Auxiliary.



J. R. Strahlendorf, Director Indiana Auxiliary.



J. E. Mattingly, Exhibit Director, Indiana Auxiliary.

that originated in the so-called tin shop and are today sold in great quantities by large industrial plants because some one had greater vision than the tin shop owner who made the first sample.

Help from Metal Branch of Hardware Jobbers.

At the invitation of Chairman Donlevy of the Metal Branch, National Hardware Association, your chairman made an address before the Metal Branch on October 18, 1921, at Atlantic City, N. J. The address was published by the trade papers and no doubt is familiar to most of our members. The final result of this is summed up in the motion made and adopted at that session of the Metal Branch which was to the effect that: "A committee be appointed by the chair which is to cooperate with our committee." The gentlemen appointed are Messrs. Howe and Taylor, and both these gentlemen are active in the work.

Wider Cooperation Coming.

We can not help but emphasize the thought as brought out at last year's conference of your committee which is: that as our work takes shape so must the various interests in our industry recognize the necessity for cooperating with us. This does not only apply to the contractor and distributor, to the manufacturer of sheets and plates, but also to copper and zinc manufacturers as well. We are each one of us a part of an industry, let us recognize this and act as a unit in an undertaking that

it properly will never think of being guided by his competitors' prices. He will demand a price which covers the cost of his production and yield him a reasonable profit regardless of what anyone else is asking. Such a cost system raises the morals of an industry.

Salary for Personal Services.

The installation of a cost system calls to the attention of some business men for the first time, the fact that they are entitled to a salary for their personal services in addition to profit on their financial enterprise. Examine your acquaintances in the sheet metal trade. Find out how many you know who are eking out a bare existence by working more than twelve hours a day and making no profits at all and still they call themselves sheet metal contractors and come

Thursday, May 18, 1922.

An address on "Profit and Loss," by Alfred Baruch, Consulting Industrial Engineer of New York, was the main feature of Thursday morning's session. Some of the instructive passages of Mr. Baruch's addresses are herewith reproduced:

Extracts from Speech by Alfred Baruch.

Profit and Loss.

There are two fundamental causes for regular losses in business. One is personal inefficiency; the other is faulty business policy. It is conceivable that a man who is very intelligent and has a high degree of personal efficiency may still make enough mistakes in his business practice to bring on a loss; while on the other hand a man whose business policies are sound may even be able to overcome the handicap of inefficient production, although, of course, his margin of profit will necessarily be reduced. The question of personal efficiency is the problem of the individual sheet metal contractor. The question of business policy is verily closely associated with cost, since the cost system serves as the barometer to the business conditions of the shop.

A business of any proportions can not be well managed today unless it employs a cost system. A man who uses

into open competition with men who operate on sound business principles.

The Advantages of a Cost System.

The installation of a cost system provides for standardizing costs. That is, a standard cost per foot of leader or flashings, per square of roofing, etc. This reason supersedes all others in importance in a case of the jobbing business such as the sheet metal trade. If a manufacturer fixes the prices of an article and on producing it finds that his price is too low he is free to raise it. A sheet metal contractor who has made up an estimate on a job and gets it, is free only to reduce the price, never to increase it. For this reason it is especially important for him to have this sheet metal costs standardized.

Still another advantage of a cost system is that it sets up a standard predetermined rate of expense with which actual costs may be compared. These standard rates serve as a budget and set the limits for normal expenditures. Of course, expenses will vary from month to month, but over a given period of time such as three or six months they should average out almost exactly depending on the volume of business.

The existence of a cost system will also be a great aid in putting forward claims for collecting insurance in case of a fire. A well-ordered statement showing complete up-to-the-minute inventories of the stock on hand both raw and in process of manufacture with the various items of equipment stands a bet-

ter chance of acceptance from an insurance company than a statement drawn from a man's memory.

Interest Is Not Profit.

A man engages in business to earn a profit. If he should have to borrow all the money with which to go into business he would certainly have to pay interest before he could declare a profit. Therefore, it is necessary to charge interest into the cost whether the money is borrowed or not. The only difference between the man who borrows money to run a business and the one who does not is that the latter has sufficient funds to operate his shop without going outside for capital. The man who has borrowed money and fails for any length of time to earn at least the interest on the investment he will soon be declared bankrupt.

A man who puts his own money into the business will be allowed to stay on even though the business is insolvent.

Suppose, however, that the man who invested his own money repeatedly shows a loss until he has used up the larger portion of his operating capital; then he will have to borrow money in order to carry on. Should he charge the interest on the borrowed money to cost why not charge interest on his own money?

Interest as a Part of the Selling Cost.

It must be taken into account at some point to show what the return of the investment is equal to the current rate of interest or not. If it is not, then it would pay the investor to take his money out of the business and put it in interest bearing bonds. He, himself, can go to work for someone else at a salary, assuming for the sake of the argument that he can command the same salary outside that he pays himself.

Replacement of Capital.

Closely associated with the subject of interest and often confused with it is the matter of depreciation. Interest provides for the return on the investment of capital. The depreciation reserve provides for replacement of the capital as the assets shrink in value. Neither should be omitted from the estimate of cost, yet both often are with the result that profits are declared that are really deductions from the capital, both principal and interest.

The method of determining the rate of depreciation varies with conditions and with the extent to which the management is developed along scientific lines. The crudest method of determining the extent of depreciation is by the yearly inventory method. A physical inventory is taken once a year of stock on hand, machinery and equipment in order to determine the profit or loss for the year. The contractor appraises the value of his equipment on the occasion of this annual inventory. A much better method is to calculate the depreciation and the extent of reserve necessary by determining the schedule of depreciation on the basis of the expected life of the machine.

In closing I wish to call attention to a common error in estimating that often leaves a contractor at the end of the year wondering where the profit is that he has charged on every job. Assuming that the gross business is \$100,000, and that the cost is \$80,000, and the profit \$20,000, the contractor decides to charge 20 per cent for profit for the coming year, since \$20,000 is 20 per cent of \$100,000. But in making out his estimates he actually adds 20 per cent to the cost of the job. It will be remembered

that the total cost for the year was \$80,000. Twenty per cent of \$80,000 is \$16,000 and not \$20,000. Therefore, in order to get a correct return, the contractor must charge 25 per cent of the cost of the job.

Thursday afternoon was devoted to the Annual Outing; and in the evening a dinner and entertainment was given by the Indiana Jobbers' and Salesmen's Auxiliary at the Athenaeum.

"Trow" Warner and "Bill" Laffin, the A. E. F. vaudevillians, were easily the feature of the entertainment following the dinner.



E. W. Norman, President Indiana Auxiliary.

Their jokes and songs went over big, and the audience was in a continuous state of laughing during their "sketch," but "Trow" wanted to keep the AMERICAN ARTISAN cane after the show as Arthur Lamneck and some of the other boys were threatening to get even with him for the stories he told at their expense.

The exhibit was extraordinarily fine. Never has the sheet metal fraternity had the good fortune to see and examine so many fine examples of their craft's productions—in the semi-finished and finished stage, from the finished sheet to the artistic figure of a soldier; from the tinner's mallet to the most intricate machine; from the tinner's soldering furnace to the acetylene welding outfit; from the small horse

shoe radiator type of a warm air furnace to the giant warm air generator equipped with an electrically operated fan.

It is to be hoped, however, that in the planning of future national and state conventions there will be a provision made which will give the national officers opportunity and power to approve or disapprove of the convention arrangements and leave that body of men in absolute control of the operation of the convention, as to admission, session, etc.

Friday, May 19, 1922.

Routine matters, including the report of the Resolution, Auditing, State and Local Associations, and Special Committees, occupied the concluding session of the Convention Friday morning.

The officers chosen by the Convention to government the affairs of the Association for the ensuing term are as follows:

President—JOHN A. PIERPONT, Washington, D. C.

First Vice-President—FRANK B. HIGGINS, Saint Louis, Missouri, re-elected.

Second Vice-President—GEORGE P. WERNER, Galveston, Texas.

Third Vice-President—DAVID M. HAINES, Chicago.

Fourth Vice-President—JOSEPH C. GARDNER, Indianapolis.

Treasurer—JULIUS GEROCK, Jr., Saint Louis, Missouri, re-elected.

Secretary—EDWIN L. SEABROOK, Philadelphia, re-elected.

Trustees for three years—ARTHUR P. LAMNECK, Columbus, Ohio; GEORGE HARMS, Peoria, Illinois, and JOHN H. HUSSIE, Omaha.

Resolution presented by Illinois State Association, declaring against registration or admission fees being charged and against exhibits at future national conventions was adopted.

A compliment of unusual nature was paid to R. J. Braley, who was elected an honorary member for life in recognition of his long and active work for the Association.

Saint Louis, Missouri, was chosen as the 1923 Convention city.

Thus come to a close the Eighth

teenth National Convention, a gathering larger in numbers and with accomplishments which bid fair to have more influence for the improvement of the sheet metal business than almost any other in the history of the Association.

Things Seen and Heard at the Convention.

Just before reaching the Convention and Exhibit Hall a warm air furnace was seen in full operation. It proved to be the new super-smokeless type of the Utica Heater Company. Vice-president "Jim" Doherty was in charge and was assisted by Oliver Gedeist, Associate Sales Manager, F. S. Gottschalk, in charge of Indiana and Michigan sales and Albert F. Hem, Manager of the Chicago office. They had many interested visitors there as well as in their large booth in the hall.

J. D. Caldwell, Chicago District Manager of Sales for the Brier Hill Steel Company, circulated and greeted many friends.

"Jim" Robinson, Ralph Blanchard, F. H. Morse and Fred Heads, Vice-president, Chicago District Manager and sales representatives, respectively of the Hart & Cooley Company, had a busy time with their many visitors and distributed handsome bronze match and ash stands.

In the handsome exhibit of the New Jersey Zinc Company the honors were done by Sales Manager C. A. Stedman, H. L. Williams, D. P. Brannen and A. E. Mervine. Many samples of zinc products, such as gutters, elbows, conductor pipes and other fittings were shown.

Walter Wimmer, of the drainage canal suburb of Chicago, sometimes known as Saint Louis, found many friends of his Home Comfort warm air heater.

E. H. Eitel's display of "Speco" flux was very handy as he was just inside of the entrance, so naturally many sheet metal men stopped to learn of its many fine qualities.

Sam Burgess and Will Harms can always entertain a crowd and they always had one in their booth

where they showed the new "Out-o-Wall" register of the Rock Island Register Company. Key rings were distributed.

E. S. Gellatly, Sales Manager of the Illinois Zinc Company, had a fine showing of zinc shingles and other zinc products for building purposes in the booth of Tanner & Co., which was presided over by J. C. Henley, whose assistants were: Ben Jones, E. E. Griffith, H. C. and Harry Jones, Benjamin Booth, William Shea, N. C. Apgar, J. M. Meyers and Blake Wright.

The new Kwik-Lok double furnace pipe and fittings, manufactured by the Dunning Heating Supply Company, made a very fine show. Ellsworth Dunning was in charge and had many interested callers.

C. W. Hitchcock was in charge of the FarQuar furnace exhibit. The unique type and the many unusual features caused much interest among the installers.

Al Friedley presided over the fine display of architectural metal work of the Friedley-Voshardt Company, and was assisted by J. A. Melice and P. Biehr; the handsome statue of a "Doughboy," done in welded copper, attracted much attention.

Harry Woods, Samuel Beck, Dr. and Mrs. Cory and Harry McKee had lots to do to give attention to the visitors in the booth of the Premier Furnace Company.

The very striking display of Parker Supply Company's products, such as punches, sheet metal screws, quadrants, etc., was under the charge of C. S. Trott, the energetic sales representative. He was surely on the job. As a souvenir he distributed a "Die Grip" soldering copper handle.

It looked like old times to see John Kerch and O. Voorhees in attendance with an exhibit of XXth Century warm air heaters. Father Voorhees had his son with him, and G. A. bids fair to beat his dad as a furnace salesman which is going some. J. H. Cudiff also assisted in entertaining callers.

Peter A. (Pete for short) Johnson had to do all the work in the exhibit of Champion warm air pipes of Charles Johnson Hardware Company as his son was prevented from coming along by sickness in the family.

The new "fin" type steel furnace of the Hall-Neal Furnace Company, surely attracted attention for Charlie and Harry were kept busy showing the various important features of their recent invention.

No national sheet metal convention would be successful without the attendance of Ed Hoffeld, General Manager of the Ferdinand Dieckmann Company. If there is a new style in elbows made it is sure to be in Ed's line, provided it is a good one.

President W. H. Hill, of the Fox Furnace Company, had a big staff of salesmen with him, headed by R. E. Taylor. They were: U. F. Heiman, F. C. Millard, E. H. Skinner and H. B. Krekeler, Jake Kinsner and Gust Krack, who are wholesale agents, also were present.

The "Armco" exhibit was an interesting one. There were gutters, sheets, downspouts, all shown under the glare of electric light reflected by pieces of galvanized gutters. The process of making "Armco" ingot iron was shown by moving pictures. Bennett Chapple, Publicity Director, was in charge and was assisted by Walker Lewis, Howard Besuden and Douglas Blecker, of the Development Section, Fred Tobitt, Manager of the Galvanizing Section and Al Pryor, Cincinnati District Manager.

The handsome mitres, in galvanized, copper, lead, zinc, etc., of the Braden Manufacturing Company, were shown by Karl and Mrs. Roth, W. E. Williams and W. A. Klein. Karl says that Mrs. Roth is likely to become a better salesman than he is if he lets her attend very many more conventions with him.

R. C. Walker, assisted by L. G. Colburn, G. M. Oliphant, M. G. Hinch and J. B. Sauer were kept busy pointing out the important features of the "Weir" welded steel

furnace and the "Warm Home" dome-type cast furnace of the Meyer Furnace Company.

Right next door was the exhibit of the "Handy" warm air furnace pipes and fittings of F. Meyer & Brother Company. When George Harms was not busy in the business sessions, he presided over the exhibit, assisted by Charles Spindler, V. Parks and Bert Lewis.

H. E. Marsh, of the Marsh Lumber Company, manufacturers of Marsh wood faces, felt much more at home in Indianapolis than at the Pittsburgh convention, because in the former place he had a chance to show his "faces" to a lot of installers, and he did not have to wait for the "next."

George Carr and George Auer would make a pretty good team if you could only get them broken in together, but in spite of their many dissimilarities they managed to get along pretty well, because George Carr had charge of his show of Auer registers which forms a part of his line of furnace supplies, while George Auer did the inviting. Dale Carr looked after his dad and saw that there was a big soft chair for him.

In the upper section of the hall was the striking display of the Kruse Company; the glistening white enameled 28-in. Conservation steel furnace could not help draw the attention of the hundreds of delegates who passed by on their way to the stage. Two other—black—furnaces completed the display which was presided over by Robert Kruse and Frank Beeth.

J. Harvey Manny, Fred Bloomfield and W. F. Stremke had many visitors to entertain in the big display of Manny warm air furnaces and fittings. The new "Simms" one-piece radiator furnace attracted much interest. Harvey is enthusiastic about it, and others seem to agree with him.

Jack Eaglesfield had a nice display of the new hand-finished wood faces of the Eaglesfield Ventilator Company.

"Bob" Ketting would surely feel utterly lost if he could not attend

national sheet metal contractors' conventions, so he was on hand to boss his "outfit" consisting of W. T. Reynolds, T. Warner and "Bill" Laffin. They had a lot of callers who wanted to see the Tuttle & Bailey line of registers.

"Bill" Lamneck had to work, while Arthur did the "presiding" at the sessions, but he had willing and efficient helpers in F. F. Foster and R. Endebrook, who talked Lamneck furnaces, fittings, stove pipes and elbows.

John Jenson certainly knows how to make a good demonstration of the Whiting portable, rotary hand



J. C. Henley, Treasurer Indiana Auxiliary.

metal punches, and he had many interested visitors.

C. Y. Nellis, Sales Manager, and T. J. Morton had a busy time showing the prominent features of the new cast furnaces of the Star Foundry Company, which has recently been put in operation in Evansville, Indiana.

In the "duplex" booth of Follansbee Brothers Company and the Security Sheet Metal Company the following salesmen were on hand to greet their many friends: H. W. Niehaus, Victor Prange, E. J. Campbell, Charles Riebel, Carl Terstegge and "Dave" Gaston. M. A. Follansbee came down from Chicago for a couple of days.

S. Eisenberger, of the A. Ach & Son Company, Dayton, Ohio, had an interesting exhibit of register

shields and warm air guides, both for floor and wall types, something quite different from anything the writer has ever seen.

Among those present was J. R. Zimmerman, Indiana representative of the Favorite Stove & Range Company.

Joseph Stearns had a busy time in the exhibit of the Stearns Register Company. He had many callers who made themselves known as old friends of his father.

E. B. Langenberg was a busy man. When he was not in attendance upon business sessions or committee meetings he could usually be found in the "Front Rank" furnace exhibit of the Haynes-Langenberg Manufacturing Company. H. A. Beaman and Art Fanning assisted in the exhibit which also included samples of their new furnace pipes and fittings.

A very unique effect was produced by F. A. Dinnott of the Anaconda Copper Mining Company, in the roof made of copper shingle in several shades, from oxydized dull green to plain bright.

My good friend "Hod" Giffon of the Wise Furnace Company passed greetings among his friends at the Convention.

Mr. and Mrs. F. C. Ewert and Mr. and Mrs. John Kutscheid, of Ewert and Kutscheid, entertained many visitors who called to see their Peerless steel squaring power shears. Fred has an inexhaustible fund of good stories and every little while one could hear a hearty laugh come from their booth.

Charles Seelbach, Charles Merritt and C. R. Barnes, the three "C's" of the Forest City Foundry Company, had enough to do to keep them from getting into mischief with the many requests for information about their Niagara and Monarch warm air furnaces. Walworth registers were also shown in their booth.

D. D. Dorsey—three "D's" in one this time—had charge of the big steel bending brake exhibit of Dreis & Krump Company.

Doctor John P. Wagner (he is a real graduate physician), Presi-

dent of the Success Heater & Manufacturing Company, is a real "trouble doctor," for he certainly knows how to pour oil on troubled waters and to get men of divers opinions to agree on fundamentals, which is a big step toward getting them to work together for the common good.

Fred L. Nesbit, President of the Standard Furnace & Supply Company, is a real fighter and he will stay up all night to convince you that he is right, but if after all his proofs and arguments have fallen on ears and minds unwilling to hear and see things his way, he can be just as good friends as ever, and Fred surely has a lot of friends in the trade.

I was glad to see my old friend F. W. Barry in the exhibit hall. He has been selling Estate furnaces for so long that his looks actually belie the fact. "F. W." doesn't look a day older than thirty, and Doc Weatherly says that he knew of him when he started in business.

F. H. Wilberding, Sales Manager of the Ferbert-Schorndorfer Company, never says much, because, according to his idea, words are likely to be misconstrued, while actions speak for themselves. So Mr. Wilberding presented handsome desk calendars made of brass to his many friends among the contractors with the simple statement that "Tino Red" is "the" satisfactory paint for all sheet metals.

Joseph Farris makes a good furnace and claims that with his latest model he has solved the problem of providing steady and sufficient humidification. That is a long word, I know, but Joe likes it and it seems to roll off his tongue just like—well what is the proper synonym, anyway. Incidentally, Joe is some orator—with this difference: He says something when he talks. C. H. Spaulding looked after their exhibit while Joe was fighting the battle for liberty in the convention.

Paul R. Jordan makes a good ventilator, they tell me, and he is looking for some good contractors who know how to sell them and put them up.

Henry E. Schwab could not attend the convention, because of an extremely important happening which took place this week in Milwaukee, so he sent his double, A. G. Pomerene, to take his place in the GiltEdge booth, but somehow or other the attempt to "put over" the substitution did not succeed. There were too many present who knew that "Pom" wears a "Shrine" pin and that Henry was only an humble "master." However, "Pom" did his best with distributing GiltEdge smoke producing



H. A. Beaman, Secretary Indiana Auxiliary.

cigars and between times put in a good word for GiltEdge furnaces.

George W. Johanson, their Michigan man, kept tab on "Pom"—and he had a job.

The man who is known from coast to coast—the only R. L. McHale—also assisted by C. Harrison, told of the merits of the elbows and other sheet metal products of David Lupton's Sons Company. Mac is not very tall, but he certainly knows his subject and knows how to tell about it.

D. E. Cummings has a way about him which makes you feel at home right away when you start talking with him, so it was no wonder that the booth of the Thatcher Furnace Company was always full of visitors. E. F. Gries, W. W. Warren

and Jack Shriver helped him entertain.

As long as I have attended hardware and sheet metal conventions in the middle west, there has always been a tall, dignified, pleasant, silver-haired gentleman, by the name of Sam Keller, in attendance, and probably he will be present for the next twenty-five years, for he does not seem to get any older as the years go by. Mr. Keller had with him in the booth of the Berger Manufacturing Company and its allied interests the following: J. B. Montgomery, A. E. Watson, H. O. Wilson, J. A. Jakle, A. H. Schiebe, R. W. Holtz and Andy Epperson.

There was no music in the exhibit of the Michigan Stove Company, but the "Garland Quartette," consisting of O. E. Jennings, B. R. Petrie, Guy Waites and E. M. Read were "there" with the convincing selling talk on Garland furnaces.

Another convention fiend, M. B. Armstrong by name, came in early Monday and stayed until the last dog was hung. Mr. Armstrong can not find words which will express fully how good and well made his sheet metal garages really are so he had a completed model in miniature in his booth, and occasionally George Buttrick would allow visitors to open the door to see how nicely everything was put together. Mrs. Karl Roth wanted the model so badly that I suspect "M. B." will have to ship it to Terre Haute instead of having it returned to the Thomas & Armstrong Company.

J. C. Gardner wears a Van Dyke which is quite sprinkled with gray, so he must be "some" along in years, but he was about as spry on his feet as any youngster on the convention floor, and indeed, he is only a boy according to the words of Mr. Gardner, Sr., who in spite of his 84 years is still active in business and was a regular attendant at the meetings. "J. C." must be following in the footsteps of his sire, and no doubt we shall be greeting him for many years as Prexy Gardner.

J. R. Strahlendorf, C. Fisher, C. Nichols and A. C. Lawson held forth in the fine exhibit of the Peerless Foundry Company. Jack was the "boss" of the "Peerless" show and was on the job all the time. He was usually seen with his hand pointing out some of the important features of their warm air furnaces or coal chutes to an interested installer.

The manly form of "Lou" Denoyer was noticed on the floor, quite noticeable in fact. "Lou" has a way about him that seems to make people feel that what he says about Canton Steel Ceilings is absolutely gospel truth.

D. A. Purviance, Mark Ransburg, Carl Kirachoff, Frank Speaker, A. G. Auckerman and Ray Lininger took turns showing the handsome effects of the Majestic Duplex registers and telling about their coal chutes and garbage containers. "Jim" Triggs was with his boys a couple of days but had to leave to see that they did not fill up the hole again, where the basement of the new hotel that they say is going to be built some day, is supposed to be.

"Tony" Howe and "Pop" Henninger had some job in keeping the crowd in line that wanted to "take a chance" on some of the tinner's tools that were offered as prizes in the booth of the J. M. & L. A. Osborn Company, but F. O. Carfer, L. B. Ticknor and the two twins, D. A. Hossler and H. W. Brainerd, helped them out in good shape. Handsome desk clocks were distributed as souvenirs.

The furnace with the diving flue was ably demonstrated by H. R. Harrison, T. W. Torr and Mr. and Mrs. R. S. Thompson. Harrison says that Rudy furnaces are the only ones that are made of charcoal iron.

They accused R. D. Wiechert, of the Saint Clair Foundry Corporation, of visiting the various furnace booths for the purpose of finding out what was to be found by sticking your hand inside of the cleanout doors, but his hands were always clean whenever I saw him.

The new bride of Paul F. Brandstedt had a very pleasant time while her busy husband was in the business sessions because she had become acquainted with so many of the "convention fans" at the meetings which were held at Peoria.

R. T. Wasson headed the delegation of Torrid Zone enthusiasts in the exhibit of the Lennox Furnace Company. His companions were: H. S. Hynds, J. T. Lennon and H. O. McElwain. Mac sure was some busy man bossing the job of setting up the furnaces.

One of the exhibits that attracted much interest was that of the Walchli Manufacturing Company, St. Louis. Being an active sheet metal contractor for many years, Mr. Walchli knew that one of the things that a man working on a cornice or gutter job wants is a ladder that he can feel sure will not go to pieces when he is on it, so he has perfected a ladder which is nearly break-proof as any ladder can probably be made out of wood as the main material. Each rung has a steel rod running all the way through and held in place with screw nuts. Two heavy wires run above and below on the uprights, the effect being that the ladder is extremely rigid and strong.

A. A. Thompson and Walter Siemens of the Excelsior Stove and Manufacturing Company told many installers of the high heating qualities of their Cycloidal furnaces, a model of which was on exhibition.

Charlie Smith was not born in 1810 in spite of his fine gray hair, but he is rather proud of the fact that he presided in the exhibit of N. & G. Taylor Company, makers of Target and Arrow roofing tin and that his house was founded in that year.

Ask Julius Gerock what he said when he found all that high priced vinegar in his basement.

National Tinner's Red Paint was ably demonstrated by B. J. Jacobs, F. M. Baird, H. S. Briggs and A. A. Senor.

R. W. Menk, Joseph Goldberg, W. R. Lawson and C. L. Burch took turns telling about Excelsior fur-

naces and pipe and fittings, and at times they were all talking about that "Booster" that they are featuring for better heat distribution. Nifty watch fobs were distributed. Charlie Glessner looked in to say "Howdy" to the boys on Wednesday.

A. P. Harder and Fred Ahlstrand of the A. P. Harder Furnace Company were on hand to show and explain the smoke-consuming device on their furnace.

Charlie Bartholomew and J. W. Tallarday assisted by their dealer-installer in Markle and Bippus, Indiana, Jack Senard, had a very busy time with visitors because the Renown furnaces of the Independent Stove Company were shown in the booth right at the left side stairs leading to the stage where the sessions were held.

President Lamneck did not want to have it appear that he was getting all the glory, so he requested Frank B. Higgins to preside during part of the Wednesday morning session, and John A. Pierpont to direct the discussions in the afternoon—or was it because he knew that he was going to have to listen to a lot of so-called oratory and wanted to show what real oratory was?

C. T. Mullen and A. St. Clair of the Mount Vernon Furnace Company greeted many of their friends who wanted to see how their Master furnace looked. They have been in the "game" for many years and have a wide circle of friends.

If you ask George Thesmacher what he thinks about circumstantial evidence, he will say that there are circumstances where that sort of evidence is not reliable.

"Dick" Moncrief, A. J. Ross and Phil Gertz got hand-shaker's cramp greeting the many visitors to the exhibit of the Henry Foundry and Furnace Company. Dick usually is a good picker and he did not make a mistake this time for he selected his booth so that as you left the stage on the left side stairs you were facing his booth.

It develops that we have obtained another pair of twins in the sheet

metal trade—R. E. Pauly and N. A. Lichty, both from the Hawkeye state, were inseparable. If one of them wanted to take a walk, the other always went along and their meals were always taken together—but what did you boys do when one of you wanted a bath?

Floyd Trees and F. Bolds—good combination, isn't it? Well, they presided in the exhibit of the Monitor Stove Company and put in a good word for "CaloriCs."

I never knew before that R. B. Strong, of the Homer Furnace Company ever soiled his hands doing manual labor, but I actually saw him wearing a pair of overalls Tuesday, and was informed by a thoroughly reliable source that they really belong to "R. B.," also that he would work when he had to, only that he prefers one of those jobs where the thing that tops off your body is the big thing to use.

The management of Hotel Severin, which, by the way, also operates the Miami Hotel at Dayton, Ohio, is entitled to exceptionally high credit for the service rendered. The manner in which they looked after the comforts of the delegates, their ladies and other visitors to the convention certainly is well worthy of commendation. There was a total absence of the aloofness and indifference on the part of employees which is too evident in so many hotels. They went to all sorts of ways to make you feel that they really wanted to make your stay at "their" hotel a pleasant one.

Trade Development Committee Holds Special Meeting.

A special meeting was called by Chairman Paul F. Brandstedt of the Trade Development Committee of the National Association of Sheet Metal Contractors on Monday, May 15th, at Indianapolis, for the purpose of discussing the report of the chairman and matters pertaining to the work of the committee.

A. G. Pedersen was chosen as secretary pro tem.

The report was read and approved with minor corrections. The report showed that the work on the Data Book is progressing well in all branches.

E. B. Langenberg read the Treasurer's report in the absence of Julius Gerock, Jr., and highly complimented Mr. Gerock on the clearness and simplicity of his records. A balance of \$4,207.25 was shown to be on hand, and all subscriptions—\$7,460.00—have been paid.

Messrs. Harms, Tingles and Pedersen spoke on the matter of securing additional subscriptions from associations and individual members.

Upon the suggestion of E. A. Scott, it was decided that a letter be sent to the Metal Branch of the National Hardware Association, giving a report on the progress made and requesting subscriptions now, so as to make sure of having the funds necessary to complete the work up to the point of printing the Data Book.

Messrs. Howe and Taylor were appointed as a committee to present this matter verbally at the meeting of the Metal Branch, June 9 and 10, in Cleveland.

After a rising vote of thanks to Chairman Brandstedt for the excellent manner in which he is supervising the work on the Data Book, the meeting adjourned.

For the information of those interested, some of the amounts subscribed (as loans with a good probability of repayment when the Data Book is published), are given herewith:

Pittsburgh Association ..	\$1,000.00
Cleveland Association ...	1,000.00
Baltimore (individuals) ..	1,000.00
Illinois State	500.00
Ohio State	500.00
St. Louis, Local	500.00
Peoria, Illinois, Local ...	250.00
Springfield, Illinois, Local	200.00
Ventilating Branch of Chicago Local	500.00
Individual subscriptions, more than one hundred in number, each	10.00

Old Guard Gathers for Annual Dinner.

The "Old Guard" of the National Association of Sheet Metal Contractors consists of those who have been members of the association for ten years or more.

Always on the first evening of the annual convention, the Old Guard has a dinner and this year was no exception.

In absence of President Biersach, Judge Werner occupied the chair and the following were in attendance.

William Schwartz, St. Louis, Missouri.

E. L. Gibson, Cincinnati, Ohio.

F. L. Nesbit, Omaha, Nebraska.

Frank B. Higgins, St. Louis, Missouri.

Frank T. Bokern, St. Louis, Missouri.

William E. Neuman, Ogden, Utah.

H. W. Symonds, St. Louis, Missouri.

A. B. Bennett, Sharon, Pennsylvania.

E. B. Langenberg, St. Louis, Missouri.

E. E. Miller, Kansas City, Missouri.

Fred Hartel, Galveston, Texas.

G. E. Snyder, Columbus, Ohio.

A. G. Pedersen, Chicago.

G. Werner, Galveston, Texas.

E. L. Seabrook, Philadelphia.

Adam Audler, Cincinnati, Ohio.

George Harms, Peoria, Illinois.

William E. Miller, Dayton, Ohio.

George Thesmacher, Cleveland, Ohio.

Chas. E. Coberth, Washington, D. C.

F. William Stechow, Cincinnati, Ohio.

Joe Apolonio, Washington, D. C.

F. J. Hoersting, Dayton, Ohio.

P. A. Johnson, Peoria, Illinois.

James J. Barrett, Alton, Illinois.

Frank E. Treuchet, Springfield, Massachusetts.

O. A. Hoffmann, Milwaukee, Wisconsin.

John Bogenberger, Milwaukee, Wisconsin.

After a fine repast, about two hours were spent in story telling, after which the following officers were appointed for the ensuing year (not elected—you have to serve if the President says so):

President: George Harms, Peoria, Illinois.

Vice-President: Frank E. Hoer-
sting, Dayton, Ohio.

Secretary-Treasurer: E. L. Sea-
brook, Philadelphia.

Fine Tools Are Won in Booth of J. M. & L. A. Osborn Company.

Seventeen sheet metal contractors left the Convention better equipped with tools than when they arrived. Every visitor to the exhibit of J. M. & L. A. Osborn Company "took a chance" by accepting a numbered ticket, free of charge of course, and on Thursday afternoon the lucky numbers were picked by Miss Etta Cohn, with the following result:

Number 146, to John Balkema, Lafayette, Indiana — Number 5 Junior Whitney Punch.

Number 39, to Manrow Sheet Metal Works, Goshen, Indiana—Number 18 Niagara Snips.

Number 81, to Joseph A. Meyers, Evansville, Indiana — Number 7 Junior Whitney Punch.

Number 33, to Louis Decker, La Porte, Indiana—Number 4 Soldering coppers.

Number 99, to W. R. Shaw, Jacksonville, Illinois—Pocket Seamers.

Number 103, to Shanklin Hardware Company, Frankfort, Indiana—Parker Punch and Vise.

Number 96, to Paul Cory, Knox, Indiana—Niagara Snips.

Number 10, to Charles Hauck, Springfield, Ohio—Niagara Snips.

Number 127, to A. E. Munkel, Columbus, Ohio—Niagara Snips.

Number 64, to William J. Byrd, St. Louis, Missouri—Niagara Snips.

Number 61, to Orten & Ault, Wadsworth, Ohio—Niagara Snips.

Number 124, to William E. Kraft, St. Louis, Missouri—Niagara Snips.

Number 102, to P. A. Johnson,

Peoria, Illinois—Number 7 Junior Whitney Punch.

Number 16, to F. J. Mewald, South Omaha, Nebraska—Ten pounds of Golden Star Solder.

Number 14, to A. B. Bennett, Sharon, Pennsylvania—Number 5 Junior Whitney Punch.

Number 47, to Paul E. Woizeski, Bloomington, Illinois — Pocket Seamers.

Number 139, to Paul E. Shafer, Peoria, Illinois—Number 18 Marshalltown Shears.

Prizes numbered 146, 81, 13 and 15 were donated by the Whitney Metal Tool Company.

Prizes 39, 96, 10, 127, 64, 61 and 124 were donated by the Niagara Tool & Machine Company.

Prize 103 was donated by the Parker Supply Company.

Prize 139 was donated by the Marshalltown Manufacturing Company.

Model Sheet Metal Shop Makes a Big Hit.

Under the skilled supervision of L. Broemel of Peck, Stow & Wilcox Company, the model sheet metal shop was the center of interest at the National Association of Sheet Metal Contractors' convention in Cadle Auditorium, Indianapolis.

Throughout the four days of the convention the shop was in full operation.

About a dozen boys from various training schools who, in competition with other sheet metal students, had won the right to work in the shop were busy laying out patterns and making sheet metal products.

Mr. Broemel acted as their instructor and took a profound pleasure in demonstrating to the visiting delegates the advantages of adequate mechanical equipment for the modern sheet metal establishment.

Among the labor-saving, profit-getting machines shown in actual production were power, cornice, press, cornice brake, throatless shear, turning and wiring machine, groover, elbow edger, gang punch, angle shear and punch, hold-all machine, and beader.

Michigan Trade Extension Bureau Holds Meeting.

The regular monthly meeting of the Trade Extension Board of the Michigan Association was held in Lansing on Tuesday, May 9th. Delegates from all local associations were present except Battle Creek and Jackson. N. L. Pierson of the American Rolling Mill, Robert Joy and Mr. Stout of Wheeling Corrugating Company, Mr. Howe and Mr. Somers of the J. M. & L. A. Osborn Company were also in attendance.

Many matters of trade extension were discussed but the one to receive the greatest amount of attention was the trade-mark which has recently been adopted by the association.

Secretary Ederle stated that over two hundred tons of this metal had been sold to the jobbers and members of the association.

He also announced that one mill had accepted a contract and were now rolling the sheets and making eave trough and conductor pipe and that four Michigan jobbers would soon be in a position to make shipments from warehouse stocks.

Another subject of considerable interest was the setting of the dates for the summer outing. Harry Rhodes, chairman of this committee, reported that the most logical time for this big event was the last week in July and upon his recommendation July 25-26-27, were chosen.

He stated that arrangements had been completed to leave Grand Rapids on the evening of the 25th by electric for Holland, from there by Graham & Morton Boat to Chicago, arriving there the following morning.

Rooms have been secured at the Hotel Sherman for the use of the members during the day. In the forenoon a trip will be made to Armour's and at noon a lunch will be furnished at this place.

From here the party is given a sight-seeing trip about the city and returned to the hotel.

After a banquet at the Sherman

Hotel the North Shore Electric will run a special to Milwaukee. Here the Hotel Wisconsin will be headquarters. On the following day the Michigan crowd will be entertained by the manufacturers and jobbers of Milwaukee. On the evening of

July 27th the party will return via Chicago to Grand Rapids, arriving there Friday morning. The Board was unanimously in favor of the suggested plans and adopted them. Complete details will be announced later.

Zideck Gives Twelve Clear Directions for Soldering Up Leaks in Tubes of Fin Core.

If Leaks in the Tubes Are Due to Splits in the Seam or Bad Dipping, They Should Be Soldered Up Without Moving the Fins.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by
E. E. Zideck, New York City.

TWENTY-NINTH ARTICLE.

LEAKY tubes of fin cores are less easily repaired. If the leaks are due to splits in the seam or to bad dipping, they should be soldered up without moving the fins.

Where the radiator was cleansed in the acid or chemicals bath and the tubes are ready to receive and hold solder, it is not much of a job either.

But if the soldering is to be done on a radiator not cleaned, the cleaning must be done by fluid and flame preparatory to actual soldering, and in this case the job is not as easy and not as promising of good results.

The following directions, if observed, will accomplish it:

1. Place the radiator, face down, upon the bench and something to support it, so as to leave the core free to be approached from both sides.

2. Place a pan underneath the core for the fluid and the molten solder to drop into it.

3. Use a can for fluid to apply richly.

4. Regulate the flame to half-length and medium heat, and start to move it along the tube (on top of the tube) where the leaky one is located.

5. The flame must reach all through the core and envelop each of the tubes in that row.

A slightly side-way direction of the flame to reach between the fins

and strike the tubes from either side is recommended.

6. The heating-up of the tubes contained in one vertical row is accomplished by the flame being moved quickly, as otherwise the fins, being of thinner material, are easily burned up.

7. Fluid is poured upon the top tube its entire length as soon as the metal is heated up.

In fact, fluid and flame are applied intermittently until the tubes show the white of melting solder.

8. The radiator is turned over and the same process is applied upon the tubes from the other side.

9. Fluid must be poured upon the heated-up tubes many times in succession.

This results in leaving them clean of dirt, white-tinned, and ready to hold solder.

10. Wire solder is applied upon the heated up fin metal directly above the tube.

It will melt instantly and flow around the tube, and drop to the next tube, and so forth, until it has reached the last tube and starts dropping into the pan.

11. When the whole length of the tube-row has been treated in this way, it is time to turn the radiator over again and do it once more from the other side.

Now the flame is applied moderately, so as to melt the solder supplied, but not melt it too much to flow off the tubes and drop into the pan.

12. For finishing up, the radiator is placed in an upright position.

Fluid is poured in between each of the fins from both sides and then flame is inserted between each of the fins, again from both sides, to cause the solder sticking on to the fins to melt and form rings around the tubes.

This kind of repairing taking up much time and not being always crowned with immediate success, the repairers resort to *replacing* the leaky tubes by either pulling them out and inserting new ones through a hole in the tank, or cutting or sawing out a portion of the core and inserting fin-core sections which can be made to fit the fins and are joined to the old fins by solder.

This latter method, even if it takes up as much time as the other, is the more satisfactory one because it is smooth work and is a real, lasting repair.

(To Be Continued)

E. W. Norman Is Re-elected President of the Indiana Auxiliary.

The annual meeting of the Jobbers' and Salesmen's Auxiliary to the Indiana Sheet Metal Contractors' Association was held Friday, May 19th.

Full reports of the officers and committees were rendered after which the election took place with the follow result:

President—E. W. Norman, re-elected.

Vice-presidents—A. J. Becker, Phil Gertz, Ralph Ingalls and F. L. Canine.

Secretary—Paul R. Jordan.

Treasurer—J. C. Henley, re-elected.

Directors—F. A. Wilkening, Karl Roth, O. V. Voorhees and W. C. Fletcher.

Membership Committee—H. A. Beaman, F. H. Speaker and W. R. Lawson.

Most of us live our way into our thinking, rather than think our way into our living.

Greenberg Reads the Riot Act to Jack Krape and Tells Him That He Is an Old Dried-up Fossil and a Crab.

The Trouble with Jack Was That He Had Never Learned How to Give Quality Service and Get a Quality Price in Return for It.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD, by J. C. Greenberg, Cleveland, Ohio.

JACK KRAPE was sore at the whole world when I entered his shop. He was all shot to pieces over everything in particular.

"'Lo, Jack!" I greeted him as I entered, "How are you today?"

"Rotten," he answered in a surly manner. "Things are all shot to hell."

"Tell me all about it, Jack," I said in a patronizing manner. "Tell me all your troubles and maybe I can help you out of the scrape."

"Oh—no one can help me," he replied. "I am sorry I ever learned the sheet metal trade. I have to work too hard. I have to stand for poor and profitless jobs, and I have to put up with a lot of things that no decent man should. I am plumb disgusted."

There was a fine situation for a salesman to meet up with, wasn't it? I came to sell a bill of goods, and Jack sure encouraged me—not! However, I could not afford to let Jack get my goat, so I said with a smile:

"Just what is it that is all shot. Where does the shoe pinch you, Jack? Give me an idea as to what really has put those bugs into your bonnet."

"Well," he answered, "it has gotten to be so that a fellow that has to stay in business can't do it, and if a fellow wants to quit business he can't do it either. So I have to stay in and I am between the devil and the deep sea."

I thought for a moment. Yes, I thought hard. I began to see that Jack put himself into thinking that he really has to be in business. When a man gets to that "has to" stage about his business he is bad off. So I said to him:

"Jack, you are wrong at the start. You believe that you have to stay in business, and that thought alone is

ruining your chance for success. When you think you 'have' to do something you become a slave to that something, and nobody with self-respect wants to be a slave."

"Oh, it isn't that," Jack said, "I do not say that I am a slave, but just the same I am in business because I 'have' to be."

"Jack, listen to me," I began. "As long as you say you 'have' to be in business, you will not like it. You should so frame your mind that you will say that you 'want' to be in business."

"What is the difference?" Jack asked. "Want to or have to, I am in and it is all alike to me."

"Jack, there is a lot of difference between the two points of view," I explained. "When you say you want to be in business, you strive to stay and to succeed. When you say you have to be in business, you do not strive to succeed, but rather you strive to fail. You strive to kill that which enslaves you. Get that fool notion out of your noodle and learn to think straight."

"Oh, I'm thinking straight, all right enough," he said in a dejected manner. "I see how things are, and I must call a spade a spade. What is the use in trying when all is against you?"

"There is all the use in the world in trying," I answered. "All things that have been done were done because somebody has tried to do it. All that is at fault is your frame of mind. You do not 'have' to stay in business. You really 'want' to stay in business, but you don't believe it. As long as you do not believe in your business, you will fail as flat as a tin sheet. Brace up and see what other fellows are doing."

"What are other fellows doing, hey?" he asked. "What is there in this business that I do not know?

I have been here for twenty years, and now look at me, will you? You talk about point of view! There is no such animal."

"Yes, there is," I insisted. "If you will look at things right, you will see that business is nothing but service. You must want to serve in such a good manner that business becomes a pleasure. All the world is based on service, and you, Jack, must do your share. If you 'want' to stay in business, you will serve so well that success will come. But if you say you 'must' stay in business, it becomes a burden, and no man can render service who does not love his work. You are suffering the sin of bad service, and the results are not good, and you can not like it one bit."

"All that service stuff is all bunk," Jack said doggedly. "What does the customer know about service? All they bawl about is price. Give them a cheap price and the job is yours. That's all there is to it."

"You are making the biggest mistake of your life, Jack," I said kindly. "You have lost all ethical conduct if you say that price is the thing. If you could learn to talk service, and quality, and leave the price for the last, you will get better prices for your services. If you do a cheap and profitless job, the customer knows full well that he is getting a cheap job, but he doesn't know any better. You as a business sheet metal man, should help educate the public to recognize quality service for a quality price. Jack, you were never a real business man, you only thought you were."

"Is that so?" he asked, "I suppose I have been in business all these years for nothing. I guess I know what's what."

"Jack, just a moment ago you told me that you have been in business twenty years, and had nothing. Is that true or not? If it is true, then I am telling the truth. If you had spent at least ten years of that time in learning business methods, you would not be in the frame of mind you are in now. Jack, you are floundering in a sea of ignorance that is driving you mad. You stopped thinking along constructive lines. Wake up, friend, and realize that to do business you must know how things are accomplished. You are trying to do things you know nothing about, and condemn your business at which many are getting rich. You are a slave to a false idea, and think you are right."

"All bunk—all bunk," he replied.

"All bunk, is it?" I asked, getting warm under the collar. "You need to be whipped into shape, and I am going to do it if I lose your friendship. I do not want a crape hanger as a friend, anyway. Here you are a would-be business man and do not even know the first principle of success. You are a pessimist. What do customers think of you? They think that you are an old dried up fossil and a crab—and you are. You have made yourself what you are, and expect the world to patronize you. You are as crazy as you can be."

"Become an optimist. Become a hopeful man and strive to succeed. The reliable man is he who has faith, courage, responsibility, truth and justice under his hide. You have not one of these attributes and expect to be a reliable man. Jack, if there was ever a piece of human bunk, it is you. Take it or leave as you see fit. So long, Jack——"

"Hold on a minute!" Jack yelled, "just wait a minute, old pal. I begin to see that you are right. I begin to see that you gave me the call down of my life. Hold on—come to think of it I deserve it all right. I am a crape hanger, and I am the only one suffering for it. I realize that I have no faith—I realize that I have lost my courage. Doggone it, you are right all over."

Here is where I turn over a new leaf. I want to change from 'have to' to 'want to.' That is the best truth I have ever run across. Stick around and let us talk business."

Gee whiz. There are so many men in business that are just like Jack. They have it fixed in their minds that they "must" be in business instead of "want to be."

Mr. Reader, want to be in business, and make it a pleasure. Get over the idea that you "have" to be.

Be an optimist and save the devil a job.

Go to it, and more power to you.

Gasolene Filling Station Has Zinc Shingle Roof.

An air hammer driving rivets in the steel girders of a new building is not much louder than the chirping of a cricket in comparison with the continuous knocking of oppor-

It is the business of the sheet metal contractor to convince the owners of the buildings that zinc shingles make permanent roofs without any replacement or repair costs.

Zinc roofs require no painting. Their first cost is less than that of any other form of permanent roofing and, measured by their lasting service, they are undeniably money-saving in the long run.

No one acquainted with the facts, would accuse the Standard Oil Company of squandering money.

This Company has built up great business service and acquired much wealth through getting full value out of every dollar.

Therefore, there is a strong argument in favor of zinc shingles in the fact that the gasolene filling station of the Standard Oil Company at the intersection of Sheridan, Montrose and Broadway, Chicago,



Gasolene Filling Station at the Intersection of Sheridan, Montrose and Broadway, Chicago, Illinois, Roofed With Illinois Zinc Shingles.

tunity on the doors of sheet metal contractors.

One of the loudest knockings on the door is that in behalf of zinc shingles for roofing.

There is no reason for the sheet metal contractors suffering from dull times because the openings toward trade development are as numerous as the points on the compass.

Every day during the spring and summer seasons buildings of all kinds are going up.

They will need roofs.

Illinois, is roofed with Illinois zinc shingles, made by the Illinois Zinc Company, with sales offices at 280 Broadway, New York City, and 332 South Michigan Avenue, Chicago, Illinois.

This Illinois zinc shingle roof on the Standard Oil Filling Station, which is shown in the photograph herewith, was put on by Jacob Glatt and Son, 3636 Dickens Avenue, Chicago, Illinois, members of the Illinois Sheet Metal Contractors' Association.

The Illinois zinc shingles are pre-

oxidized, giving a beautiful soft weathered gray which requires no paint.

Moreover, their gray tone harmonizes with any style of architecture or color scheme. They are easy to lay and can safely be used on roofs having a pitch of five inches or more to the foot of any roof, for that matter, where roof shingles or slate can be used.

Metal Garages Help Trade Development.

Foremost in the thoughts of enterprising sheet metal contractors is the problem of trade development as an agency for increase of income.

Consequently, anything which offers a reasonable opportunity for trade development is sure to be interesting to sheet metal contractors.



All Metal Garage Made by Thomas & Armstrong Company.

From this angle, consideration should be given to the metal garage shown in the accompanying illustration, made by The Thomas and Armstrong Company, London, Ohio.

The advantages of an all-metal garage are so evident that they do not require elaborate explanation.

The ever-constant menace of the wooden garage is that of fire and the danger of explosion and complete destruction as a result of fire coming in contact with the gasoline.

The arguments in favor of the metal garage, of course, are convincing and especially when put forth by a sheet metal contractor.

The man logically to put up metal garages and sell them is the sheet metal contractor.

This is a business worth taking up as a matter of trade development.

Veteran Tinsmith Appreciates the Greenberg Articles.

That the J. C. Greenberg articles are appreciated by men of all ages throughout the trade is evidenced by the subjoined letter from one of the oldest and most successful sheet metal contractors in America, J. T. Henshaw of Washington, D. C., who writes as follows:

To Mr. J. C. Greenberg of AMERICAN ARTISAN AND HARDWARE RECORD:

I read your articles in AMERICAN ARTISAN with a great deal of interest and what you said about the

alert and kept in touch with progress and so at 66 years of age I am not an old fogey.

Keep on giving us your good lessons.

* There are many who need the advice and no doubt are sensible enough to profit from it.

J. T. HENSHAW.

Washington, D. C., May 9, 1922.

Reduction of Number of Styles and Sizes Helps Business.

From time to time an item occurs in the news which shows that retailers, wholesalers and manufacturers, here and there are uniting to discuss and solve their mutual difficulties.

Beginning, often, as a means for settling commercial disputes by arbitration, other subjects of common interest intruded themselves until they became of sufficient importance or sufficiently numerous to justify the organization of a committee representing all of the steps in distribution.

This is a normal development. It will have the effect of discouraging that ancient and senseless practice of Passing the Buck.

An inseparable economic bond as vital as that which tied the Siamese Twins in a physical union holds together the retail, wholesale and producing bodies of commerce.

They are nourished or destroyed in equal degree by the same causes; and the more intimate their relations, the healthier will be their condition and growth.

At first sight the distribution problems of the small retailer may seem far removed from those which affect the wholesaler of whom he buys and the large manufacturer who produces the goods.

But a moment's thought shows that the manufacturer has distribution problems quite as insistent as are those of the middleman or the retailer.

It has been shown so clearly that no further proof is needed of the saving effected by reductions in the number of sizes in various articles.

For example, an investigation disclosed that 66 different sizes of a

old tinsmith and his hand-made copper teakettle brought some thoughts to my mind.

It is now more than 52 years since I commenced my trade, and I have always been interested and diligent in my business, but all of the old-time expert knowledge making pots, pans, and kettles that was of service to me in the past, is only to my advantage now in making special articles and the odd and individual things for which there is no general demand.

I have changed with the times, have kept up-to-date and am thrifty and prosperous.

I have been a subscriber to trade journals since 1874. I have been

certain article were produced which of course meant that all manufacturers of this article must be prepared to make any of the sizes if called upon to do so.

It meant also that the cost of the really necessary sizes was burdened not alone with the investment in plant for the unnecessary sizes but with the increased factory expense of manufacturing smaller quantities of many sizes rather than greater quantities of few sizes, which latter is or should be a fundamental purpose of factory management.

A meeting accomplished largely through the Fabricated Production Department of the Chamber of Commerce of the United States, of all concerned in this matter resulted in reducing the number of sizes, first to eleven and then after a second conference to seven!

It happens that these are paving bricks but they might just as well have been any other staple commodity; and, in point of fact, the effort is begun broadly in the industrial field to reduce the number of sizes and styles to the lowest practicable limit.

"Always Reliable" Torches Have Four New Improvements.

As an aid toward greater efficiency of workmanship, the four new distinct improvements fitted to the "Always Reliable" Combination Gasolene-Kerosene Torches, made by Otto Bernz Company, Newark, New Jersey, deserve special mention.

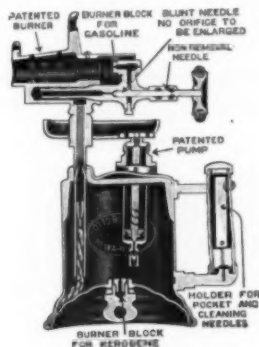
Craftsmanship is a matter of tools as well as of skill. The "Always Reliable" torches, one of which is shown in the accompanying illustration, enable the mechanic to apply the full extent of his skill in work requiring the use of the torch.

The four improvements referred to are as follows:

1. The burner needle is absolutely blunt and fits into an open channel. Due to this construction, there is no orifice to be enlarged which is the common fault with ordinary torches.

2. The burner needle is so constructed that it can not be removed unless the entire stuffing box nut is unscrewed, making a safer article.

3. The gasolene burner block is screwed into the burner ready for use. The kerosene burner block is screwed into the filler plug. When kerosene is used as a fuel, it is merely necessary to reverse the burner blocks. In this manner, the



**New Improvements in
"Always Reliable"
Gasoline - Kerosene
Torches, made by Otto
Bernz Company, New-
ark, New Jersey.**

burner blocks are always handy when required. For the convenience of the user, the gasolene burner block is marked "G," and the kerosene burner block is marked "K."

4. With these torches there is furnished one patented pocket folding cleaning needle and two extra cleaning needles. These are placed into the handle of the torch so that they are handy when required by the user.

Notes and Queries

Invalid Wheel Chairs.

From F. H. Good, Burt, Iowa.

Can you advise me who makes invalid wheel chairs?

Ans.—G. F. Child Chair and Wheel Company, 1753 West Van Buren Street, Chicago, Illinois; Toledo Metal Wheel Company, Toledo, Ohio; and Gendron Wheel Company, Toledo, Ohio.

Metal Signs.

From O. A. Miller, Uniontown, Pennsylvania.

Will you kindly inform me who makes metal signs?

Ans.—The Fred J. Meyers Manufacturing Company, Hamilton, Ohio; Baltimore Sign Company, Baltimore, Maryland, and Ingram-Richardson Manufacturing Company, Beaver Falls, Pennsylvania.

"Chace" Zinc Oilers.

From Martin Engelhart, 2538 Lincoln Avenue, Chicago, Illinois.

Please tell me who makes "Chace" all-zinc oilers.

Ans.—Hero Manufacturing Company, Westmoreland Avenue and Stokeley, Philadelphia, Pennsylvania.

Used Cornice Brake.

From The E. F. Brinkman Company, 214 East Main Street, Fort Wayne, Indiana.

Kindly advise us where we can secure a second-hand 120-inch cornice brake.

Ans.—Maplewood Machinery Company, 2547-49 Fullerton Avenue, and B. L. Saltzman, 524 West Van Buren Street; both of Chicago, Illinois.

Wooden Cold Air Faces.

From Ruud and Knain, Northwood, North Dakota.

Please inform us where we can get wooden cold air faces $1\frac{3}{4}$ inches thick.

Ans.—Marsh Lumber Company, Dover, Ohio; Carr Supply Company, 414 North Dearborn Street, Chicago, Illinois; Manny Heating Supply Company, 131 West Lake Street, Chicago, Illinois; Eaglesfield Ventilator Company, 920 Doran Street, Indianapolis, Indiana.

Repairs for "Current" Electric Iron.

From Shanks and Pannell, Worthington, Minnesota.

Where can we get repairs for a "Current" electric iron?

Ans.—Waage Electric Company, 12 South Jefferson Street, Chicago, Illinois.

Galvanized Strap Iron.

From C. McEntarfer, Eureka, Kansas.

Will you kindly advise me where I can buy $\frac{1}{8}$ by 1 inch galvanized strap iron?

Ans.—Joseph T. Ryerson and Son, 2558 West 16th Street, Chicago, Illinois.

Nickel Plated Sheets.

From The National Service Company, 1373 Third Avenue, Milwaukee, Wisconsin.

Kindly inform us who makes nickel plated sheets.

Ans.—Apollo Metal Works, La-

Review of Conditions in the Metal Markets.

General Situation in the Steel Industry. Report of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

COPPER PRICES ARE IN TRANSITION.

The copper market is still in the transition stage between $13\frac{3}{8}$ and $13\frac{1}{4}$ cents.

There are still a few who will sell electrolytic delivered through May and June, and possibly July, at the lowest quotation, but their number is becoming less every day, and it is believed that they will join the ranks of the large producers in quoting $13\frac{1}{4}$ cents for May, June, July and August at an early date.

Copper is reported as selling abroad at $13\frac{1}{2}$ cents c. i. f. European ports, but it is not yet known whether this is the price of the Copper Export Association, which, up to late last week, was quoting $13\frac{3}{8}$ cents.

More interest is being shown in future positions and it is significant that one consumer is endeavoring to purchase for shipment over the last half of this year and the first quarter of next.

Domestic demand is mainly from wire drawers and brass companies.

One interesting report is that the American Brass Company is in need of more copper than the affiliated producing companies are able to supply for the time being.

Much of the home demand is to cover contracts for finished material already booked.

The larger buying by brass companies seems to indicate that most of the scrap supplies have been utilized.

Tuesday of the present week 1,493 tons were reported shipped from the port of New York to England, Belgium, Germany and China, making total May exports to date 9,678 tons, equivalent to nearly 22,000,000 pounds.

The past week's exports from New York amounted to 5,878 tons, including 3,252 tons to France, 930

tons to Germany, 865 tons to Belgium, 475 tons to Holland, 210 tons to England, 70 tons to Scandinavia, 40 tons to China and 36 tons to Italy.

Tin.

In the domestic market, Straits tin and Straits shipments advanced from $\frac{1}{8}$ to $\frac{1}{4}$ cent and New York prices ranged from $30\frac{5}{8}$ to $30\frac{7}{8}$ cents per pound, futures commanding a premium over spots.

Standard and the 99 per cent grades advanced $\frac{1}{4}$ cent, but no premium was asked over spot for the later deliveries.

In London prices were marked down 2s 6d, but this was just offset by the rise in sterling exchange, which amounted to $\frac{3}{8}$ cent, so that the equivalents of the London prices were unchanged.

The Far Eastern market advanced $\frac{1}{8}$ on Saturday of the past week, but lost its gain on Monday of this week.

Production of tin in Australia in 1921 amounted to 2,650 tons.

Banca tin is no longer offered for prompt delivery, but for delivery from steamers due to arrive this month $30\frac{3}{8}$ cents to $30\frac{7}{8}$ cents is quoted, and May shipment from Batavia is offered at $30\frac{1}{4}$ cents.

American consumers are still holding off and it is now nearly two weeks since they made any purchases of consequence.

The tin smelting plant at Perth Amboy is scheduled to commence operations this week, providing the strike is settled. This plant has been shut down for many months.

Lead.

Monday, May 15th, the American Smelting and Refining Company announced an advance of \$2 a ton in its lead quotations to the basis of 5.35 cents New York and 5.15 cents St. Louis.

This is the sixth advance which

has occurred since March 30th, for a total of \$11 a ton.

The demand for lead has increased very materially during the past few days and notwithstanding the higher prices the producers are indifferent about selling.

It is to be noted that the demand for future deliveries finds sellers unwilling to quote except on the basis of price ruling at time of shipment.

Solder.

Solder prices now in effect in the Chicago market are as follows:

Warranted, 50-50, per 100 pounds, \$21.50; Commercial, 45-55 per 100 pounds, \$20.00; and Plumbers', per 100 pounds, \$18.75.

Zinc.

A perceptible stiffening of prices is the feature of the zinc market.

The past Saturday, May 13th, Prime Western sold at 5.10 cents East St. Louis, for May delivery and at 5.15 cents for June.

The good statistical showing for April when stocks were reduced nearly 9,000 tons, has been a factor.

Some of the eastern smelters which use coal as fuel are beginning to run short of supplies and there are at least two plants at which operations have been curtailed on this account.

On the other hand some of the natural gas smelters in the West are increasing, and a plant at Henryetta, Oklahoma, which has been out for many months, is starting up again this week.

Reports from Joplin state that production is again on the increase and the past week saw a number of new properties prepare for resumption of operations.

It is estimated that production is now slightly over 8,000 tons of zinc ores weekly.

In spite of this, however, the shipments and purchases alike are

staying slightly ahead of production.

Sheets.

On account of increased costs, it is generally believed that steel sheets in the Chicago district will soon be advanced in price.

Sheet mills in the Pittsburgh region are well sold ahead, and probably in the aggregate they are sold to an average point beyond July 1st.

The leading interest seems to be in this position on the basis of its present operating rate, which is a schedule of running 90 per cent of its mills.

The composite showing of the mills contributing their figures to the National Association of Sheet and Tin Plate Manufacturers, about 92 per cent of all the independents, is that of there being 5 per cent of a month's capacity unsold for delivery prior to July 1st, this also being on the basis of operation at the rate last shown.

For May alone the mills are far oversold, with a deficiency for June, the two months together making a total of 195 per cent of one month's production.

This means that some May deliveries will have to be made in June and that additional sales equal to 5 per cent of a month's capacity would sell the mills, considered as a whole, to July 1st.

Tin Plate.

The tin plate market is quite strong on the basis of \$4.75, which has been the regular price for months.

On particularly large orders "concessions" of five or ten cents a box might be obtained.

As a matter of fact the regular price is more prevalent than used to be the case before the war. The difference is that quantity differentials are more openly talked about in the trade than formerly.

Old Metals.

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$15.50 to \$16.00;

old iron axles, \$21.50 to \$22.00; steel springs, \$15.50 to \$16.00; No. 1 wrought iron, \$13.50 to \$13.00; No. 1 cast, \$15.50 to \$16.00 all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 8 cents; light brass, 4½ cents; lead, 4 cents; zinc, 2½ cents; and cast aluminum, 9¼ cents.

Pig Iron.

Pig iron prices on practically all grades are higher and the steel making grades have advanced from \$2 to \$3 a ton during the week.

No. 2 Foundry is selling at \$25.26 per ton in Philadelphia and \$24 Valley, an advance of \$1. Malleable has advanced \$1.50 to \$4.50 Valley, gray forge 75 cents to \$23.50 Valley and basic \$2 to \$25 Valley. Bessemer has been advanced \$3 to \$26.96 Pittsburgh. The composite price for pig iron today stands at \$23.747, as compared with \$23.492 a ton last week. However, as both English and French furnaces are quoting \$22 to \$24 New York, Philadelphia and Boston, it is not thought that domestic prices will advance much further.

Prices of Steel Bars, Shapes, and Plates Increased Five Points During the Week.

Producers in the Pittsburgh District State That Costs of Steel Production Have Gone Up by from \$6 to \$8 a Ton.

PRICES of steel show evidences of increase in all the producing centers.

The leading interest, which heretofore has refused to follow the price advances made by the independents, has raised steel bars from 1.50 to 1.60 cents, base, Pittsburgh, and is restricting the sales of shapes and plates at the lower quotation more and more.

It is expected that all three products will be established at the higher level at any moment.

In the Chicago market these three items have advanced from 1.60 to 1.65 cents, while in the Pittsburgh district, billets are definitely established at \$32 and sheet bars have gone from \$33 to \$35.

In Philadelphia, billets have been advanced to \$37.24.

The composite price for finished steel products today stands at 2.131 cents, as compared with 2.123 cents a pound for the past two or three weeks.

In the Pittsburgh district, producers state that steel production costs have been raised by from \$6 to \$8 a ton by the increased cost of fuel from the Southern fields.

Further expansion in operating schedule has been reported since

May 1, those of the leading interest having been increased to 74 per cent and those of the independents 66 per cent of capacity as an average.

This indicates an annual rate of output of 36,700,000 tons, which compares with a rate of 35,000,000 tons April 1, 30,000,000 tons March 1, 17,000,000 tons at the close of 1921, 25,000,000 tons Nov. 1, 10,000,000 tons the middle of July and 42,000,000 tons as an average for the first nine months of last year.

The unfilled tonnage of the leading interest as of April 30 totaled 5,096,413 tons, an increase of 602,265 tons. This compared with 12,183,000 tons at the end of April, 1917, the record bookings, and 2,647,757 tons Dec. 31, 1910, the minimum.

High railroad freights are driving steel companies to water transportation more and more, and the greatest shipment of steel products ever transported by our inland waterways and amounting to more than 600 railroad cars was shipped out of Pittsburgh down the Ohio River for Southern points during the week. Three companies participated, namely, Jones & Laughlin, Pittsburgh Steel Company and the Wheeling Steel Corporation.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

FIG IRON.

Chicago Foundry...	23 00
Southern Fdy. No. 2, 23 66 to 24 16	
Lake Sup. Charcoal.....	28 00
Malleable	23 00

FIRST QUALITY BRIGHT TIN PLATES.

	Per Box
IC 14x20 112 sheets	\$10 00
IX 14x20.....	11 25
IXX 14x20.....	12 60
IXXX 14x20.....	13 90
IXXXX 14x20.....	15 25
IC 20x28.....	20 00
IX 20x28.....	22 50
IXX 20x28.....	25 20
IXXX 20x28.....	27 80
IXXXX 20x28.....	30 50

COKE PLATES.

Cokes, 180 lbs...	20x28 \$11 80
Cokes, 200 lbs...	20x28 12 00
Cokes, 214 lbs...IC	20x28 12 35
Cokes, 270 lbs...IX	20x28 14 10

BLUE ANNEALED SHEETS.

Base.....	per 100 lbs. \$3 38
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ONE PASS COLD ROLLED BLACK.

No. 18-20.....	per 100 lbs. \$4 10
No. 22-24.....	per 100 lbs. 4 15
No. 26.....	per 100 lbs. 4 20
No. 27.....	per 100 lbs. 4 25
No. 28.....	per 100 lbs. 4 30
No. 29.....	per 100 lbs. 4 40

GALVANIZED.

No. 16.....	per 100 lbs. \$4 55
No. 18-20.....	per 100 lbs. 4 70
No. 22-24.....	per 100 lbs. 4 85
No. 26.....	per 100 lbs. 5 00
No. 27.....	per 100 lbs. 5 15
No. 28.....	per 100 lbs. 5 30
No. 30.....	per 100 lbs. 5 80

BAR SOLDER.

Warranted.	
50-50	per 100 lbs. \$21 50
Commercial.	
45-55	per 100 lbs. 20 00
Plumbers	per 100 lbs. 18 75

ZINC.

In Slabs	5 65
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SHEET ZINC.

Cask lots, stock.....	8½c
Less than cask lots.....	9

COPPER.

Copper Sheets, base.....	19½c
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LEAD.

American Pig	\$5 85
Bar	6 60
Sheet.	
Full coils	per 100 lbs. 8 00
Cut coils	per 100 lbs. 8 25

TIN.

Pig tin	per 100 lbs. 34 10
Bar tin	per 100 lbs. 36 10

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

Coopers'.	
Barton's	Net
White's	Net

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder 18%	
Loaded with Smokeless Powder	18%
Winchester.	
Smokeless Repeater Grade	20 & 4%
Smokeless Leader Grade	20 & 4%
Black Powder	20 & 4%
U. M. C.	
Nitro Club	20 & 4%
Arrow	20 & 4%
New Club	20 & 4%

Gun Wads—per 1000.

Winchester 7- 8 gauge 10&7½%	
" 9-10 gauge 10&7½%	
" 11-28 gauge 10&7½%	

ASBESTOS.

Paper up to 1/16.....	6c per lb.
Rollboard	6½c per lb.
Millboard 3/32 to ½.....	6c per lb.
Corrugated Paper (250 sq. ft. to roll).....	\$6.00 per roll

AUGERS

Boring Machine.....	40&10%
Carpenter's Nut	50%
Hollow.	
Bonney's.....	per doz. \$30 00
Post Hole.	
Iwan's Post Hole and Well	30 and 5%
Vaughan's, 4 to 9 in. with- out handles per doz.	\$14 00

AWLS.

Brad.	
No. 3 Handled.....	per doz. \$0 65
No. 1050 Handled	1 40
Patent asst'd, 1 to 4	35
Harness.	
Common	per doz. \$1 05
Patent	1 00
Peg.	
Shouldered	" 1 60
Patented	" 75
Seratch.	
No. 18, Socket Handled	per doz. \$2 50
No. 344 Goodell-Pratt, 1st less	35-40%
No. 7 Stanley	per doz. \$2 25

AXES.

First Quality, Single Bitted (unhandled), 3 to 4 lb. per doz.	\$11 00
Good Quality, Single Bitted, same weight, per doz.	10 00

BALANCES, SPRING.

Universal.	
Sight Spring.....	List less 25%
Straight	List less 25%

BARBS, WRECKING.

V. & B. No. 12.....	\$0 45
V. & B. No. 24.....	0 75
V. & B. No. 324.....	0 80
V. & B. No. 30.....	0 85
V. & B. No. 330.....	0 90

BEVEL, TEE.

Stanley's Rosewood handle, new list	Nets
Stanley iron handle.....	Nets

BINDING CLOTH.

Zinc	55%
Brass	40%
Brass, plated	60%

BITS.

Auger.	
Jennings Pattern.....	Net
Ford Car.....	25% off
Ford's Ship.....	25% off
Irwin	35%
Russell Jennings.....	less 10%
Clark's Expansive.....	33½%
Center	10%

Countersink.

American Snailhead.....	1 75
" Rose	2 00
" Flat	1 40

Dowel.

Russel Jennings	plus 20%
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Gimlet.

Standard Double Cut Gross	\$8 40
Nail Metal Single Cut	Gross \$4 00—\$5 00

Reamer.

Standard Square.....	Doz. \$2 50
American Octagon	" 2 50

Screw Driver.

No. 1 Comomn.....	Each 18c
No. 26 Stanley.....	Each 70c

BLADES, SAW.

Wood.	
Atkins 30-in.	
Nos.	6 40 26
" \$8 90 \$9 45 \$5 40	
Diston 30-in.	
Nos.	6 66 26
" \$9 45 \$10 05 \$9 45	

BLOCKS.

Wooden	20%
Patent	20%

BLOW TORCHES (See Firepots).

BOARDS.

Stove.	Per. Doz.
26x26, wood lined.....	\$14 45
28x28, " ".....	16 95
30x30, " ".....	19 00
26x26, paper lined.....	8 15
28x28, " ".....	9 10
30x30, " ".....	10 80

Wash.

No. 760, Banner Globe (single)	per doz. \$5 25
No. 652, Banner Globe (single)	675
No. 801, Brass King, per doz.	8 25
No. 860, Single—Plain Pump	6 25

BOLTS.

Carriage, Machine, etc.	
Carriage, cut thread, ¾x6 and sizes smaller and shorter	60 & 5%
Carriage sizes, larger and longer than ¾x6.....	50 & 10%
Machine, ¾x4 and sizes smaller and shorter 60 & 10 & 5%	
Machine, sizes larger and longer than ¾x4.....	60 & 5%
Stove	80%

Mortise, Door.

Gem, iron	5%
Gem, bronze plated.....	5%

Barrel.

Cast	Net
Wrought	"
Wrought, bronzed	"

Flush.

Wrought	Net
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Spring.

Wrought	"
Wrought, heavy	"

Square.

Wrought	"
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BOXES.

Mail. No. 2	4 10
Per doz. \$18 00 \$23 00 \$29 00	

Cast Iron.

Per doz.	\$9 50
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Mitre.

Stanley's.....	Net Prices
Stearns, No. 2.....	per doz. \$48 00

BRACES, RATCHET.

Goodell-Pratt No. 408.....	\$4 60
" " No. 410.....	4 80
" " No. 412.....	5 00
V. & B. No. 444 8 in.....	4 65
V. & B. No. 333 8 in.....	4 30
V. & B. No. 222 8 in.....	4 00
V. & B. No. 111 8 in.....	3 50
V. & B. No. 11 8 in.....	3 05

BURRS, RIVETING.

Copper Burrs only.....	50%
Tinners' Iron Burrs only.....	Net

BUTTS.

Steel, antique copper or dull brass finish—case lots—	
3½x3½.....	per dozen pairs \$2 75
4x4	3 80

Heavy Bevel steel inside sets, case lots—

per dozen sets	7 50
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Steel bit keyed front door sets, each

1 80	
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Wrought brass bit keyed front door sets, each.....

3 25	
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Cylinder front door sets, each

7 00	
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CALIPERS.

Double	Net
Inside and Outside	"
Wing	"

CARRIERS.

Hay.	
Diamond, Regular.....	each, nets
Diamond, Sling.....	"

CASTERS.

Standard—Ball Bearing.	
Bed	50 & 10%
Common Plate.....	40%

Brass Wheel

15%	
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Iron and porcelain wheels, new list

50%	
-----	--

Philadelphia Plate, new list

50%	
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Martin's

40%	
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CATCHERS, GRASS.

No. 1608.....	per doz. \$12 25
No. 1658.....	" 14 01

CEMENT, FURNACE.

American Seal, 5 lb. cans, net	\$0 45
" " 10 lb. cans, " "	90
" " 25 lb. cans, " "	1 87

Asbestos, 5 lb. cans.....

45	
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Pecora, 5 lb. cans.....

45	
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10 lb. cans.....

90	
----	--

25 lb. cans.....

1 87	
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CHAINS.

Breast Chains.

With Slide.....	doz. pairs, \$5 50
Without Slide.....	" 5 06
Doublestack	" 9 35
With Covert Snaps	" 6 33

Picture Chains.

Light brass, 3 ft., per doz.	1 25
Heavy brass, 3 ft. " "	1 75

Sash Chain. (Morton's)

Steel, per 100 ft.	
0	\$2 50
2	3 10
1	3 60

Champion Metal.

0R	5 40
2R	5 60
1R	7 75

Champion Metal—Extra Heavy.

1H	\$9 50
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Cable Sash Chains.

Steel.....	List Net Plus 15%
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CHALK, CARPENTERS.

Blue	per gro. \$2 00
Red	" 2 00
White	" 1 80
Common White School Crayon	0 30

In bags.....

per bag	\$1 80
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CHIMNEY TOPS.

Corbin	Net list
Russwin	Net list

CHECK, DOOR.

Gold.	
Good quality, ¾ in., each	\$0 44
" ½ in., " "	0 22